

Transit Planning Study

Submitted to:

Battle Creek Transit



Submitted by:

The Corradino Group, Inc.

In association with:

The Mannik and Smith Group

Executive Summary

The purpose of this study is to develop a comprehensive service analysis with recommendations that will improve the effectiveness and responsiveness of public transit to the Battle Creek community in the years to come. Rising costs, coupled with declining revenues over the past few years, have forced Battle Creek Transit and many other public transit systems to rethink how they provide services. Public transit systems can no longer count on adequate governmental support at any level to maintain current services or expand services where needed. Declining ridership, along with changing demographics and development patterns suggest that the conventional fixed-route transit services provided in Battle Creek since 1932 may need review. Given these factors and the rising cost of fuel and the associated impacts on personal vehicle travel coupled with the cost of providing public transit, now is the time for a comprehensive look at Battle Creek Transit.



An Early Battle Creek Public Transit Bus

The primary components of this study included a documentation of existing services and community demographics; a transportation needs assessment of Battle Creek residents; operational assessment of Battle Creek Transit; development of transit service alternatives; and, a set of recommendations.

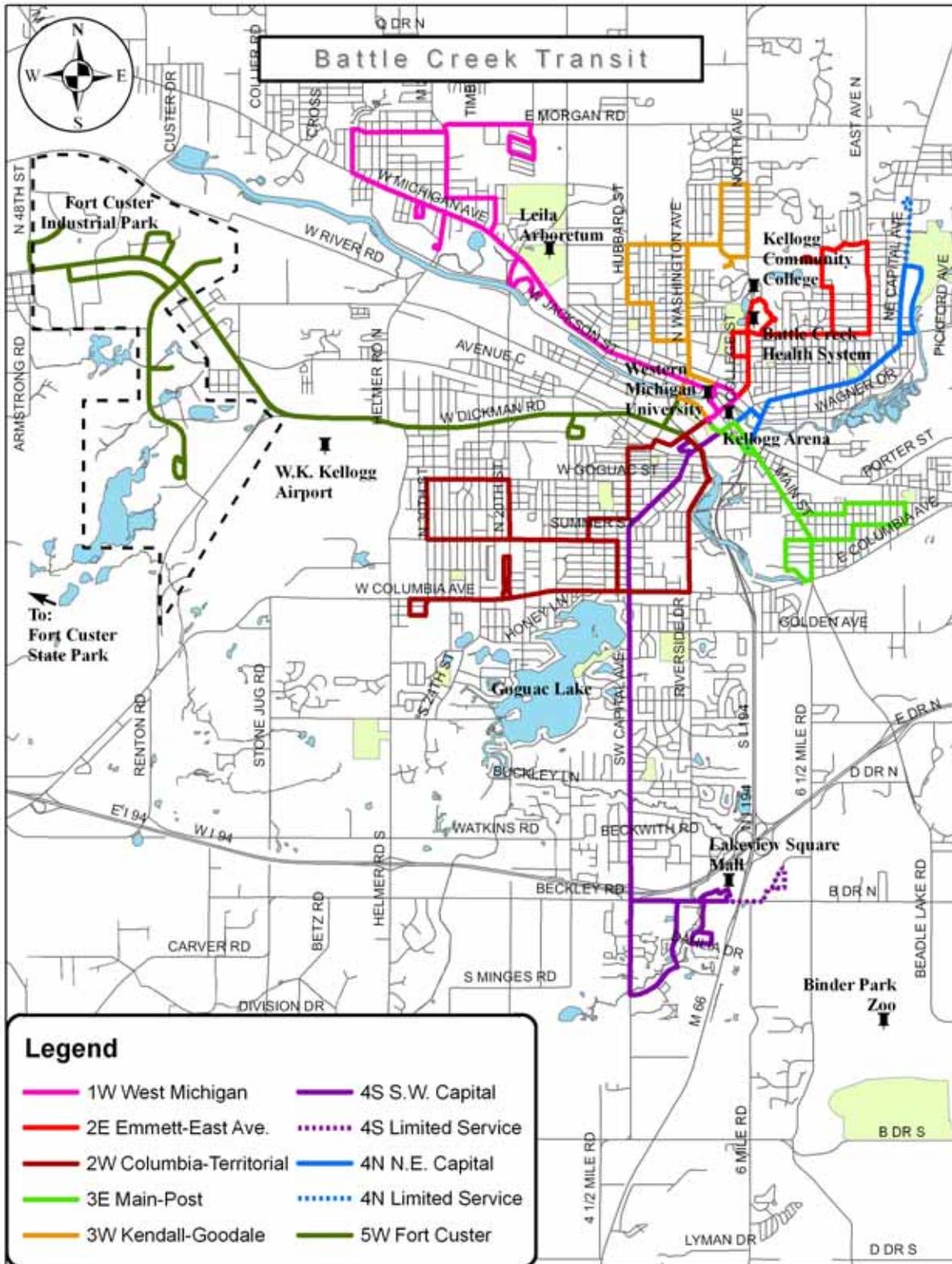
Existing Service

Battle Creek Transit (BCT) is the City of Battle Creek department responsible for providing public transit services to Battle Creek area residents. Today, BCT operates eight fixed routes and provides a dial-a-ride service called Tele-Transit.

The BCT fixed-route service operates Monday through Saturday. Service hours are from 5:15 a.m. through 6:45 p.m. on weekdays and from 9:15 a.m. to 5:15 p.m. on Saturday. BCT also operates a demand response service for the elderly and disabled called Tele-Transit. This service requires an advance reservation and is also available at a higher fare to the general public.

BCT's eight fixed routes are shown in Figure S-1. The structure of the system is radial with routes extending out into the community from the downtown Transportation Center. Routes leave the Transportation Center at 15 minutes before and/or 15 minutes after the hour.

Figure S-1
Fixed Route System



Needs Assessment

Data for the needs assessment was gathered in several forms. The consultant conducted an on-board survey of BCT riders, interviewing and gathering responses from nearly 500 passengers. A second survey was sent to 3,500 randomly selected Battle Creek area residents with responses collected from nearly 500 households. The consultant also held focus group sessions with key stakeholder groups such as representatives from social service agencies, local businesses, senior citizen/persons with disabilities organizations, educational institutions; community planning and governmental units and BCT drivers. Data from these sources was then combined with demographic data from sources such as the U.S. Census to develop a needs assessment for the community. BCT service is generally oriented to and used by those without the access, ability, or level of income needed to drive. From a standpoint of need, based on the data gathered during the surveys the greatest needs are for service later in the evening and to a number of locations that were previously served by BCT before service was cut to some of the townships and the City of Springfield.

Work Trip Needs

Based on the surveys, personal interviews with riders, and discussions with drivers, the existing needs will continue to grow. People working second and third shifts at the Fort Custer Industrial Park currently face significant challenges in getting to and from work. This is particularly concerning in light of the fact that in some cases being late or missing work even once results in loss of the job. BCT does provide service through its Tele-Trans for some of these trips but not enough to meet the demand. Similarly, people working in the restaurant and service industry face transportation challenges after BCT stops operation as many work until 9:00 p.m. or later.

Needs of Seniors and People with Disabilities

BCT is a lifeline for many of Battle Creek's seniors and people with disabilities. This is a need that will continue to grow and will affect BCT's ability to continue to provide a comprehensive service because transporting those who cannot use the regular bus system is very expensive. As these trips rise, there will be additional pressure on the system budget which could lead to even greater cutbacks in service.

General Transportation Needs

BCT is important to many people for conducting day-to-day activity including shopping, recreational and medical. Some people use the bus because they are limited by income or do not have a driver's license, etc. The need for these services will certainly continue, if not grow, given the economic challenges of today.

Needs of "Choice" Riders

The rapidly escalating price of gasoline may change the demographic profile of the typical BCT rider and open up additional areas of need to those who formerly would not use transit because they had ready and affordable access to an automobile. Although there are no real traffic

problems in Battle Creek and most people have a relatively short commute, there may well be demand for more work/commute trips. This may open the door for future discussions with the townships, which have been reluctant to provide funding for BCT service. The general public survey indicated that if gas reached \$5.00 per gallon, 75 percent of the respondents said they would consider using transit. Clearly this usage may go beyond work trips if convenient access to shopping and recreational activities was available.

Operational Analysis

The existing BCT routes were analyzed in terms of their productivity. Typically, route productivity analysis involves comparing the passengers per hour of each individual route with the average passengers per hour of the system as a whole. Routes performing at or above 80 percent of the system average are considered acceptable. Routes performing below 80 percent, but greater than 50 percent of the system average, should be reviewed. Routes with passengers per hour of less than 50 percent of the system average are candidates for elimination or replacement by another type of service.

Battle Creek Transit is unique in the fact that six of the eight routes operate at a level above 80 percent of the system average passengers per hour (Table S-1). Routes operating at a less productive level are Routes 1W West Michigan and 5W Fort Custer. Still, both of these routes operate above 50 percent of the system average passengers per hour.

Table S-1
Passengers Per Revenue Hour

Route	Avg. Weekday Ridership ¹	Weekday Revenue Hours ²	Passengers Per Hour
1W/West Michigan	193	13.0	14.8
2E/Emmett-East Ave.	178	7.0	25.4
2W/Columbia-Territorial	323	13.0	24.8
3E/Main-Post	428	13.5	31.7
3W/Kendall-Goodale	408	13.5	30.2
4S/SW Capital	276	13.0	21.2
4N/NE Capital	234	6.5	36.0
5W/Fort Custer	311	18.0	17.3
System	2,351	97.5	24.1

¹ An average of daily ridership on December 4, 2007 and February 5, 2008.

² As of December 12, 2007.

Source: The Corradino Group, Inc. with data provided by BCT.

The most productive route in terms of passengers per hour is Route 4N NE Capital as it carries 36 passengers per hour. Routes 3E Main-Post and 3W Kendall-Goodale both carry in excess of 30 passengers per hour. Routes 2E Emmett-East Avenue, 2W Columbia-Territorial and 4S SW Capital all carry between 21 and 25 passengers per hour.

The consultant also looked at the ridership on each route at a stop-level basis. Using data collected by BCT, a series of maps were developed that profiled the boarding and alighting activity of each route and how it was distributed along the route. These maps clearly showed the productive and unproductive segments of each route.

Service Alternatives

An important component of this study was to determine the optimal transit service design paradigm for Battle Creek given its current and projected demographic characteristics, its physical characteristics, and a realistic approach to capital and operational financial resources. This analysis was structured so that other systems can examine their own community with a similar methodology.

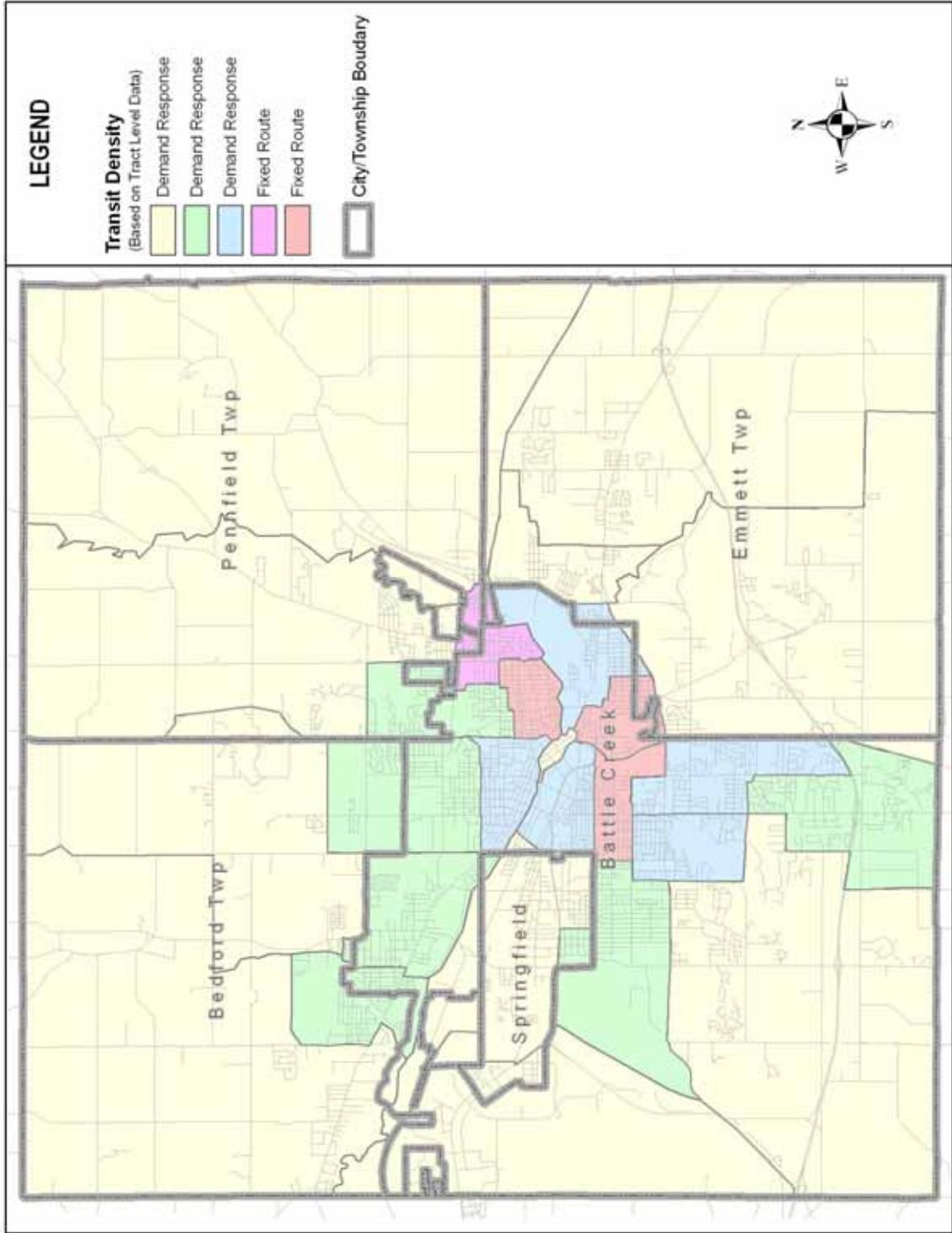
To do this, the consultant first considered the following:

- What are the types of transit service that are, and will likely be in the future, available to a community like Battle Creek?
- What are the generators that are and will need to be served?
- What are the demographic characteristics of the community?
- Based on survey data, where do people want to go on the transit system – i.e., what are the prevailing travel patterns?
- What is the impact of the recent increase in fuel prices, which has led to a surge in transit ridership in 2008?

There are several service options that realistically can be considered in Battle Creek. These include traditional fixed route transit, which most people recognize as a 40' bus operating on city streets on fixed routes passing by the same series of published stops every trip. Another option is flexible routing or route deviation service, which is a zonal based service where a bus maintains fixed or scheduled time points but with no fixed path between them, deviating to pick up passengers. The third option is what is known as demand response or dial-a-ride. Typically, people call the bus system and request to be picked up and taken to a destination. Often, a return trip is scheduled at the same time. Depending on the system, these trips are scheduled one day or more in advance or on request. Demographics, namely population density, and location of transportation generators dictate what type of service will work best for a community.

Battle Creek is a relatively low-density community with an average of approximately 1,200 people per square mile. Figure S-2 shows the overall population density throughout various areas of the community. Transit service design standards have been established using population density as a criterion. This is not to suggest that these standards are set in stone. Consideration should also be given to generators, employment concentrations, and other factors when designing transit services.

Figure S-2
Transit Density



Source: The Corradino Group, Inc.

For this analysis, the consultant has used standards from the Institute of Transportation Engineers (ITE).¹ These standards suggest the following:

- <2000 people per square mile – demand response service;
- >2000 but <4000 people per square mile – one-hour fixed route bus service in each direction;
- >4000 but <8000 people per square mile – 30-minute fixed route bus service in each direction; and,
- >8000 people per square mile – ten-minute bus service in each direction.

Battle Creek is a city of about 53,000 with a large lake in the southern portion of the community. Figure S-3 shows the generators in the city. For this study, generators are defined as those locations where people go to work, shop, participate in recreational activities, etc. As can be seen on Figure S-3, there are five primary generators in Battle Creek and seven secondary generators.

All of these generators are served to some degree by BCT. Two issues became very clear during the surveys conducted for the study. The Wal-Mart in the Beckley Road area was the predominant place cited by people as needing service. The Fort Custer area, while served, has limited evening and night service provided by BCT's Tele-Transit operation, which is often at capacity and cannot be accessed. This provides severe duress on the people working second and third shifts in this area. Riders also cited the City of Springfield and places such as Fairlane Apartments (that had previously been served) as places they thought should be served.

Examination of Battle Creek demographics, major destination and travel patterns indicate that for Battle Creek, a radial hub and spoke system makes more sense than a grid. This is due to 1) the geography of the community; 2) the relative low densities beyond the urban core; and, 3) the dispersed location of major generators. A radial system is essentially what exists today. However, there are inefficiencies in a number of the existing routes. The proposed radial service would focus on major travel corridors with service as direct as possible and operating on 30-minute headways.

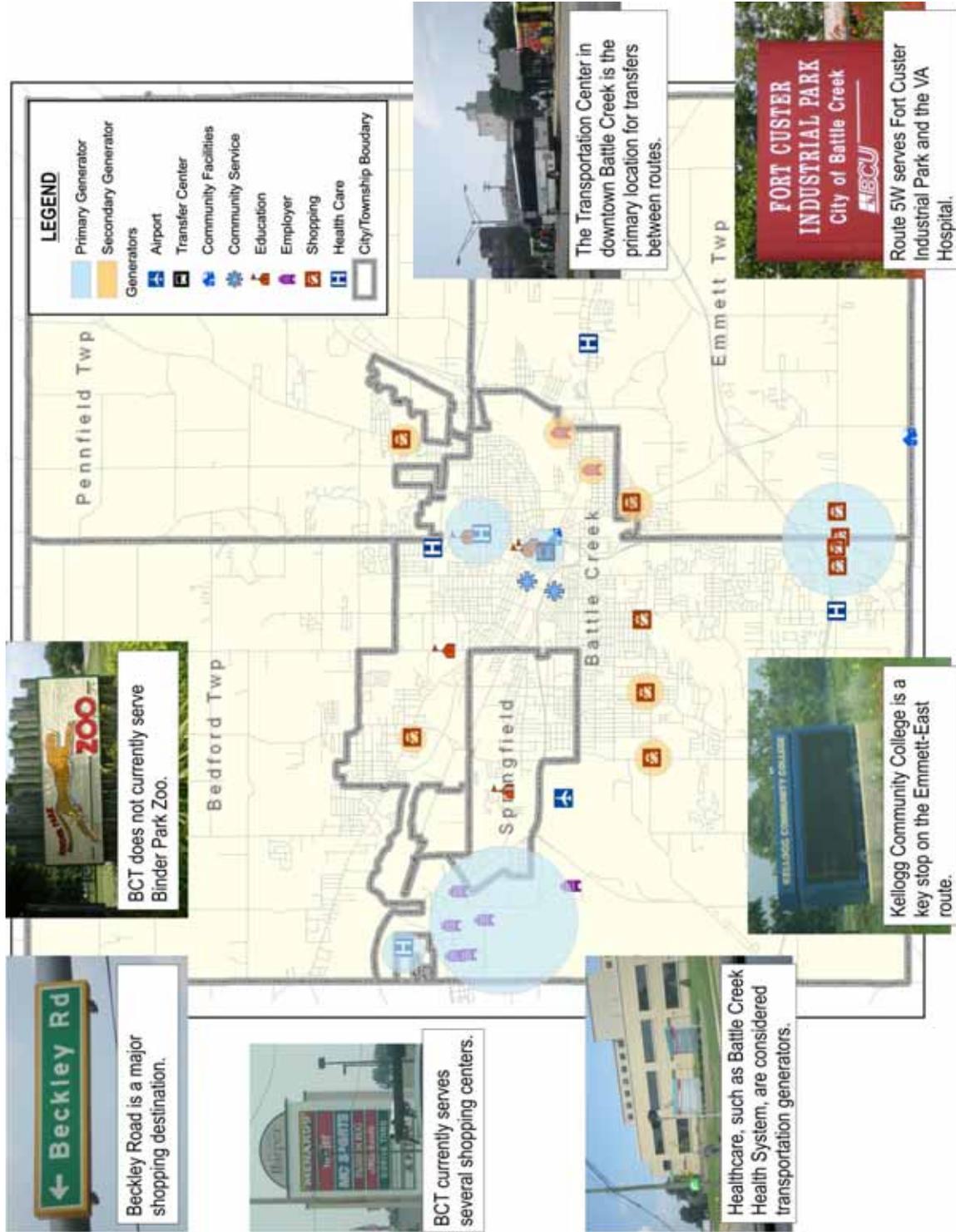
Recommendations

The Battle Creek Transit Planning Study began with an analysis of existing conditions of the transit system and the community. From these data, a needs analysis was conducted. An operational analysis of BCT followed. These components were then reviewed and an optimum service scenario for Battle Creek was developed. The analyses that were conducted indicated that, generally, the BCT system as it exists today serves the key areas of the City of Battle Creek given population densities and characteristics, as well as transportation generators. It was also determined that a radial system, as exists today, is the best way to serve the City of Battle Creek.

Using the service alternatives analysis as a guide, and a somewhat cost constrained approach, improvements and enhancements were identified for the existing system. The consultant conducted a workshop with BCT staff and discussed each route in detail and also potential new or expanded services. The concept of the call-a-ride service was eliminated due to cost considerations associated with adding a significant number of additional vehicles. The result is the set of recommendations that follow.

¹ A Toolbox for Alleviating Transportation Congestion, Institute of Transportation Engineers, 1999.

Figure S-3
Generators



Source: The Corradino Group, Inc.

The service improvements to the Battle Creek Transit system include modifications to route headways, re-routing, circulator services, super stops, regional connections and potential expansion of the evening van service. Realizing that all improvements cannot be done immediately, recommendations have been divided into three time periods consisting of short-term, medium-term and long-term recommendations. Short-term recommendations are items that can be implemented in six months or less. Medium-term recommendations are estimated to take six months to two years to implement and long-term recommendations are improvements are at least two years away from being implemented. Generally, less costly recommendations can be implemented in the short-term. Recommendations requiring additional study or additional capital equipment or staff require a longer period of time for implementation. Also included in the recommendations is moving the existing downtown transfer facility. This is necessitated by development in Downtown Battle Creek, not for improvement associated with any operational issues.

Short-term Recommendations (0 to 6 months)

Short-term recommendations are shown in Figure S-4. As indicated, the short-term recommendations consist primarily of route modifications and headway improvements.

1W – West Michigan Modifications

It is proposed that Route 1W be shortened with service focused primarily on West Michigan Avenue. The portion of the route that extends to Rolling Hills Mobile Home Park has very little ridership. It is recommended that this portion of the route be eliminated. The primary ridership activity on the route is concentrated at the Urbandale Plaza and the McDonald's on West Michigan Avenue. Modifying this route will shorten the running time to 30 minutes. In an effort to achieve a 30-minute running time (round-trip) on the route, it is recommended that the service along Barney Boulevard and Willard Avenue be eliminated and also the deviation into the Arbor Pointe complex on the south side of Michigan Avenue also be eliminated. It can then be interlined with route 2E. The resources saved by modifying this route can be reallocated to improve Route 4N-NE Capital. The 1W – West Michigan route will become a 30-minute route operating once per hour.

2E – Emmett-East Modifications

Modifications are also proposed to Route 2E. It is proposed that the route no longer use McKinley Avenue. The recommendations are for this route to leave downtown via North Avenue, go east on Emmett Street, north on East Avenue, west on Roosevelt Avenue and then continue south on North Avenue to Kellogg Community College and Battle Creek Health Systems. There is currently very little boarding activity along McKinley Avenue. The route would no longer go north of Roosevelt Avenue. There currently exists some passenger activity near the intersection of Eaton Street and East Avenue, but it is generally limited to the time periods in which the Route 4N does not service the shopping center and housing at the northern most point on the route. Thus, if route 4N were improved, riders would no longer use this portion of 2E. Service will be maintained to the Technology Center and the routes major generators, Battle Creek Health Systems and Kellogg Community College. The routing modifications will add service to Southwest Regional Rehabilitation Center located on Roosevelt Avenue. Also, as noted above, this route will be interlined with 1W – West Michigan. Both routes will have running times of approximately 30 minutes, but will only have one round-trip per hour. Route 2E is currently interlined with Route 4N.

Interline 3E – Main-Post and 3W – Kendall-Goodale

There are no routing or headway changes for these two routes. Given the changes to other routes, they can now be conveniently interlined, eliminating transfers between the two routes. Given that there is a high level of existing transfer activity between these two routes, this should eliminate the need for more than 50 passengers a day to transfer from one bus to another. Routes 3E and 3W are the highest two ridership routes in the system.

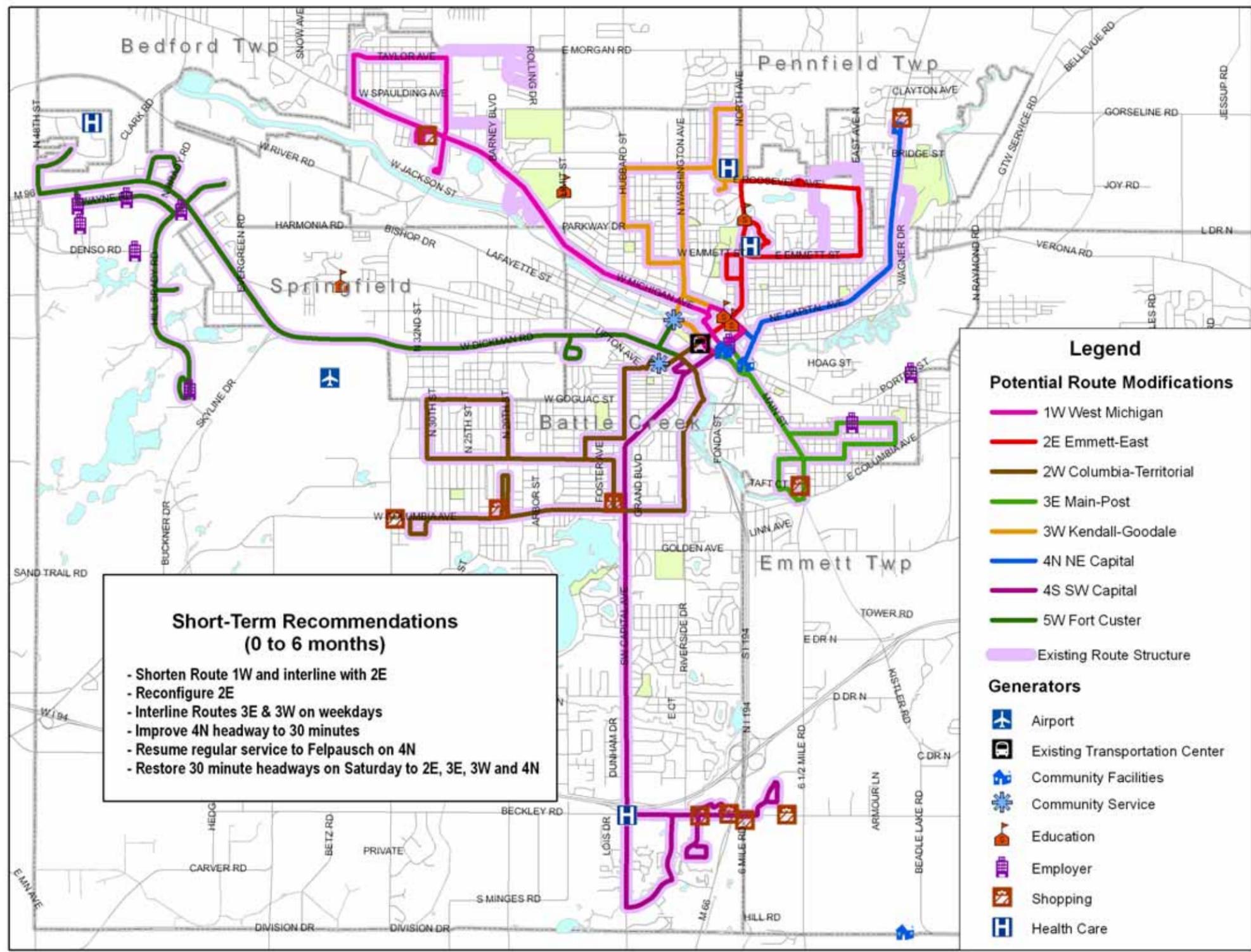
4N – NE Capital Routing Improvements

Route 4N, currently only serves the Northeast Capital Felpausch Store and Crown Chase Apartments five times during weekdays and four times on Saturday. It is recommended that all trips be extended to the end of the line. The route would remain a 30-minute route and operate two round trips hourly. In doing so, the portion of the route on Wagner Drive would be eliminated. By serving the Felpausch and Crown Chase Apartments every trip, it will eliminate riders using the northeast most stop on Route 2E as a substitute for 4N.

Restore 30-minute Saturday Headways

It is recommended that 30-minute headways be restored to Routes 2E, 3E, 3W and 4N on Saturday. The three routes all have round trip running times of slightly less than 30 minutes.

Figure S-4
Short-term Recommendations



Source: The Corradino Group, Inc.

Medium-term Recommendations (6 months to 2 years)

During the 6 months to 2 years time period, it is proposed that Route 4S be reconfigured, a circulator be added along Beckley Road, a connection to the new casino be developed and a study of circulators for the downtown and Fort Custer be conducted as well as evaluation of regional service to Kalamazoo and Marshall and the evaluation of expanding evening van service (Figure S-5). During this time period it is also assumed that the main downtown transfer facility will have to be relocated.

2W – Columbia-Territorial Inbound Realignment

Recommended modifications for Route 2W are minimal. Service will be maintained to Columbia Plaza and the Meijer Store, the two most frequented destinations on this route. It is proposed that the inbound portion of this route be modified to maintain service on Capital Avenue that will be eliminated due to changes on another route. Rather than proceeding toward downtown on Riverside Drive, it is proposed that the route use Capital Avenue inbound. Changes to Route 4S-SW Capital will eliminate service on Capital Avenue; the modified Route 2W inbound service will maintain service on Capital Avenue.

4S – SW Capital Modifications

It is proposed that Route 4S be realigned to reach the mall via I-194 rather than travel between downtown and the mall on Southwest Capital Avenue. This will allow the route to operate more like an express route to the mall. The portion of the route that currently covers the Beckley Road area between Southwest Capital Avenue and the Meijer's store to the east of I-194 will be eliminated and replaced with a circulator service. In addition, a super stop will be developed at or near the mall to facility transfers between the regular fixed routes and the circulator service. A more detailed discussion of the Beckley Road Circulator and the super stop follows.

Beckley Road Circulator

The Beckley Road Circulator will replace the portion of Route 4S that operates along Beckley Road. It will be somewhat expanded to include the commercial and health care facilities along Beckley Road west of Southwest Capital Avenue. It will also include the previously served area on Southwest Capital Avenue south of Beckley Road to Glen Cross Road and north on Minges Creek Place. There are two larger apartment complexes in this area that will need service. In addition, it will serve the commercial concerns along Southwest Capital Avenue just north of Beckley Road.

Serving the Beckley Road corridor with a regular route has become increasingly difficult with the congestion associated with the densely developed retail corridor. The circulator will allow for service with a smaller vehicle that can more easily negotiate the numerous curb cuts and circuitous assess routes between the major destinations. The Beckley Road corridor has become too large of an area with too many destinations to serve as part of a route that then must connect with downtown.

Beckley Road Super Stop

It is recommended that a super stop be developed along Beckley Road as a location where Route 4S can connect with the Beckley Road Circulator. At this location would be shelter for the passengers and also perhaps some passenger amenities. A potential location for the Super Stop is Lakeview Square Mall.

The super stop could also play a role in the potential service to the new casino. Given that the casino is located in Emmett Township, off I-94, a boarding location with good access to I-94 would be ideal. This location could also be used in the event a regional connection between Battle Creek and Marshall is developed.

Potential Service to Casino

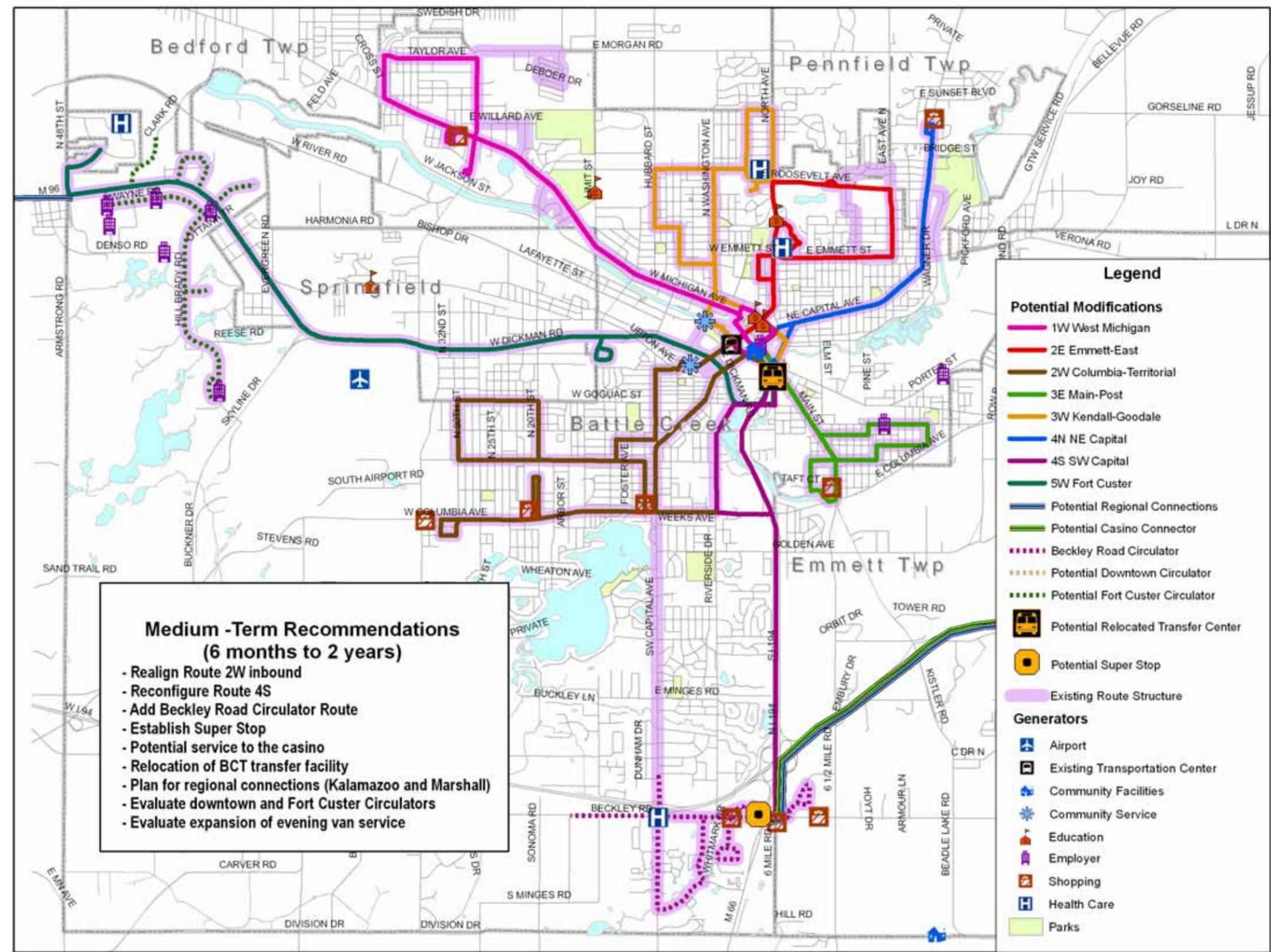
The FireKeepers Casino has a projected opening of summer 2009. The facility is being constructed off I-94 at exit 104, between Battle Creek and Marshall. According to published reports, the casino will include 2,500 slot machines, 90 table games and 20 poker tables. Included on-site in the development will be five restaurants. Employment recruiting materials indicate that they will be hiring 340 card dealers, 50 slot attendants, 500 food and beverage workers, 85 security workers, 34 marketing professionals and a host of other personnel for secretarial, human resources, warehousing, and maintenance and retail positions. Not only will there be a need to get casino patrons to the facility, but potentially 1,000 workers will drive or need to find some other means to work at the casino. A large portion of the workforce will likely come from Battle Creek.

Implementing a super stop along Beckley Road, in close proximity to I-94, would create a good location from which service to and from the Casino could connect to the BCT route system. In addition, given that the initial casino development will not include hotel facilities, it could provide casino patrons that are staying in Battle Creek are hotels along Beckley Road, a means of transportation to and from the casino.

Plan for Regional Connections

Logical regional connections for BCT are Kalamazoo to the west and Marshall to the east. To the west, Route 5W – Fort Custer currently goes all the way to the county line. To connect with the Kalamazoo bus service, a good transfer point would need to be identified. To connect to the east with the Marshall public transit system, service could take place from the Beckley Road super stop. The service to the casino could be a stop on the way to Marshall. The planning process for regional services would include identifying the level of demand and working with the other two entities to coordinate a point at which the systems could meet and transfer passengers.

Figure S-5
Medium-term Recommendations



Source: The Corradino Group, Inc.

Relocation of Downtown Transfer Facility

Given access issues on McCamly Street and future downtown redevelopment, it will become necessary to relocate the existing downtown transfer facility. A site in or near downtown is preferred given the radial nature of the route system. One potential site is a location in the vicinity of the 3E – Main-Post Route. The site is bounded by Hamblin Avenue on the North, Fountain Street on the South, I-194 on the west and Jay Street and Main Street on the East. Running through the middle of the site is a short stretch of South Avenue that has been closed to traffic. The site, along with the potential reconfigured routing to access the site, is shown on Figure S-6.

The site is within walking distance of the City Hall, the Police Department, Calhoun County Justice Center, and Commerce Point-Chamber of Commerce and Visitor and Convention Bureau. It is also just across the street from Monument Park.

This site could easily accommodate a facility similar to the one that currently exists with bus bays around a central island of passenger shelters. It could also accommodate a transfer facility with a structure and additional passenger amenities.

Evaluation of Circulator Services

As part of the medium-term recommendations, it is proposed that additional circulator services be studied and evaluated. Two additional locations for circulators would be at Fort Custer and also in the Downtown area (refer to Figure S-6). The Fort Custer route is a long route that deviates throughout the Industrial Park. Given that the development in the industrial park is not compact, employers are spread across a wide area. In addition, the main generator in the Industrial Park is the VA Hospital. There are other employment locations where riders get on and off the bus, but only a few passengers per day. A circulator operated during shift change hours, using a smaller vehicle and linking up with Route 5W – Fort Custer, might be a more efficient means of getting workers to their various dispersed locations throughout the Industrial Park.

In the downtown area, there are several transportation generators. These include the Transportation Center, McCamly Plaza Hotel, The Rink, Kellogg Arena, Full Blast and then those on the other side of downtown such as City Hall, Commerce Pointe and potentially, a relocated BCT transfer facility. A downtown circulator could distribute downtown employees and visitors throughout the downtown from various parking structures, McCamly Plaza Hotel, public buildings, entertainment venues and the BCT transfer facility.

Thus, it will be important to evaluate the need for these circulator services during the medium-term. If these services are determined feasible, they will be implemented in the long-term.

Evaluation of Expanded Evening Van Service

BCT currently offers evening dial-a-ride van service, Monday through Friday, from 6:00 p.m. to 11:30 p.m. The primary purpose of the service is to get people to work and provide service to those who need to shop in the evening hours. A 24-hour advance reservation is required. The fare is \$5 per one-way trip.

This service is currently in high demand. This combined with the fact that during the onboard survey, many people needed transportation later than the hours that BCT currently operates; make it an ideal time to look at some type of BCT evening service. Providing expanded evening van service would be less costly than the alternative of operating the fixed routes a few additional evening hours. Expanding the evening van service would require only additional evening drivers, given that existing vehicles could be used. Another way of providing additional evening service could be through contract with a private transportation service such as the local taxi service.

Long-term (2 years or longer)

The long-term plans for BCT consist of implementing services evaluated during the medium-term (Figure S-7).

Add Circulator Route(s)

If the Fort Custer and/or Downtown Circulator routes are determined to be feasible, they could be implemented in the long-term. This would allow time to acquire the necessary vehicles and add staff as needed.

Add Connections Regional Connections

As with the circulators, if the analysis during the medium-term indicates regional connections are needed and feasible, they can be implemented as long-term recommendations.

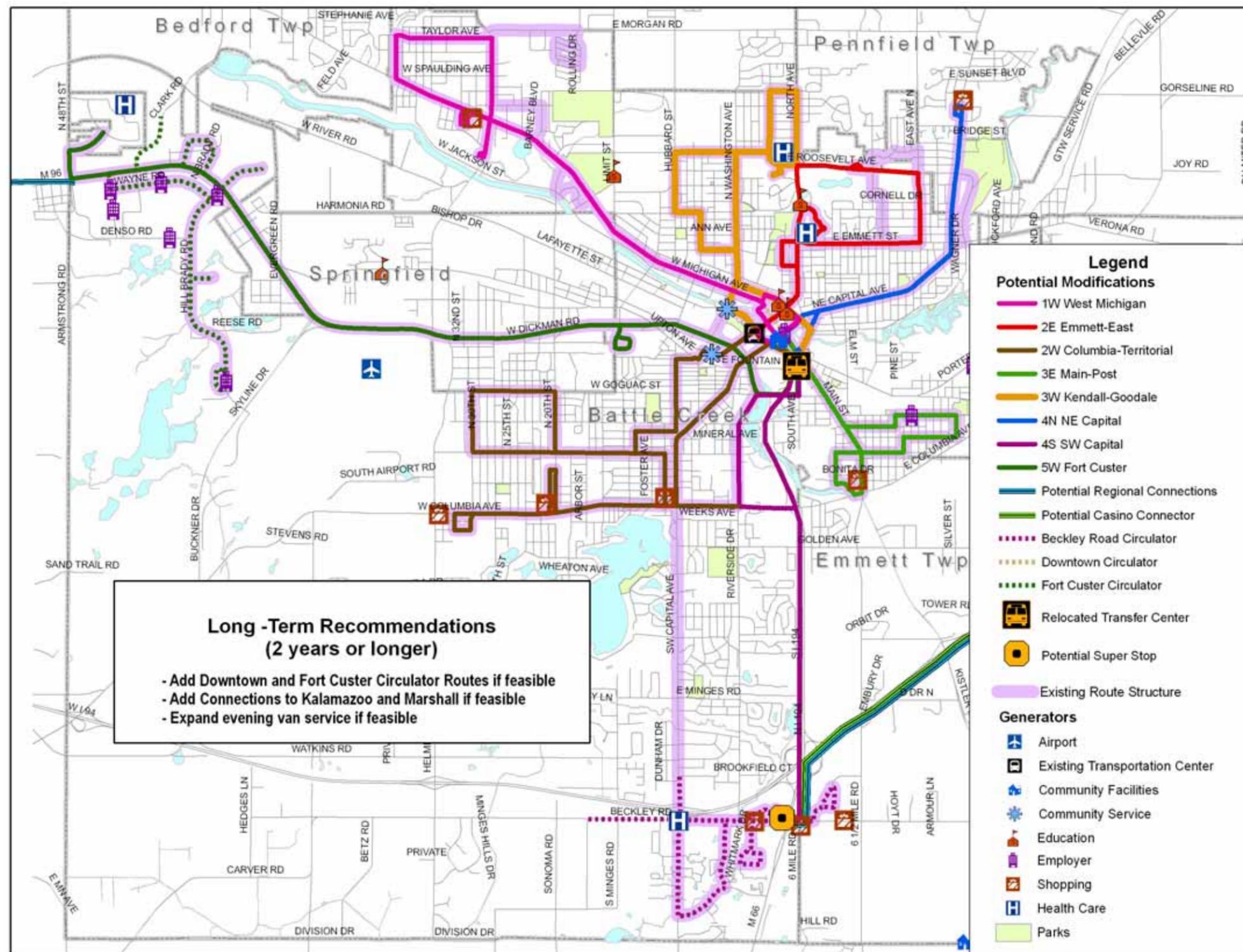
Expand Evening Van Service

BCT will have time to analyze the need and feasibility of expanding the evening van service in the medium-term. If demand warrants, and a feasible operating scenario can be developed, expanded evening van service will be implemented in the long-term.

Conclusion

The Battle Creek Transit Planning Study has reaffirmed that the BCT system, as it exists today, is basically sound. The radial structure of the route system is still appropriate and should remain. Modifications can and should be made to specific routes to improve productivity. Frequencies should also be improved in key corridors and circulator service added to improve connectivity and levels of service in certain areas. Consideration should also be given to expanding the daily hours of service through the expansion of evening van service and BCT should explore regional connections with neighboring systems.

Figure S-7
Long-term Recommendations



Source: The Corradino Group, Inc.

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1. Introduction

The purpose of this study is to develop a comprehensive service analysis with recommendations that will improve the effectiveness and responsiveness of public transit to the Battle Creek community in the years to come. Rising costs, coupled with declining revenues over the past few years, have forced Battle Creek Transit and many other public transit systems to rethink how they provide services. Public transit systems can no longer count on adequate governmental support at any level to maintain current services or expand services where needed. Declining ridership, along with changing demographics and development patterns suggest that the conventional fixed-route transit services provided in Battle Creek since 1932 may no longer be the most effective means of providing public transit service in Battle Creek. Given these factors and the rising cost of fuel and the associated impacts on personal vehicle travel coupled with the cost of providing public transit, now is the time for a comprehensive look at Battle Creek Transit.



An Early Battle Creek Public Transit Bus

The Battle Creek Transit Planning Study consists of the following five main tasks:

- Task 1: Existing Conditions and Needs Analysis;
- Task 2: Service Analysis;
- Task 3: Service Alternatives;
- Task 4: Analysis and Recommendations; and
- Task 5: Fare Structure Analysis.

This is the final report of the Battle Creek Transit Planning Study.

2. Existing Service

Battle Creek Transit (BCT) is the Department of the City of Battle Creek responsible for providing public transit services to Battle Creek area residents. The service began in 1932. Today, BCT operates eight fixed routes and provides a dial-a-ride service called Tele-Transit. The following is a summary of the existing BCT services.

Fixed-Route Service

The BCT fixed-route service operates Monday through Saturday. Service hours are from 5:15 a.m. through 6:45 p.m. on weekdays and from 9:15 a.m. to 5:15 p.m. on Saturday. BCT also operates a demand response service for the elderly and disabled called Tele-Transit. This service requires an advance reservation and is also available at a higher fare to the general public.

BCT's eight fixed routes are shown in Figure 2-1. The structure of the system is radial with routes extending out into the community from the downtown Transportation Center. Routes leave the Transportation Center at 15 minutes before and/or 15 minutes after the hour.

Route 1W/West Michigan

The West Michigan route serves the northwest part of Battle Creek. Key stops are the Leila Arboretum, the Rolling Hills Mobile Home Community, Urbandale Plaza, Bedford Manor and the Arbor Pointe town homes. This route operates on one-hour headways, leaving the Transportation Center at 15 minutes past the hour. Route 1W also stops at Northwestern Junior High School on the 7:15 a.m. trip.

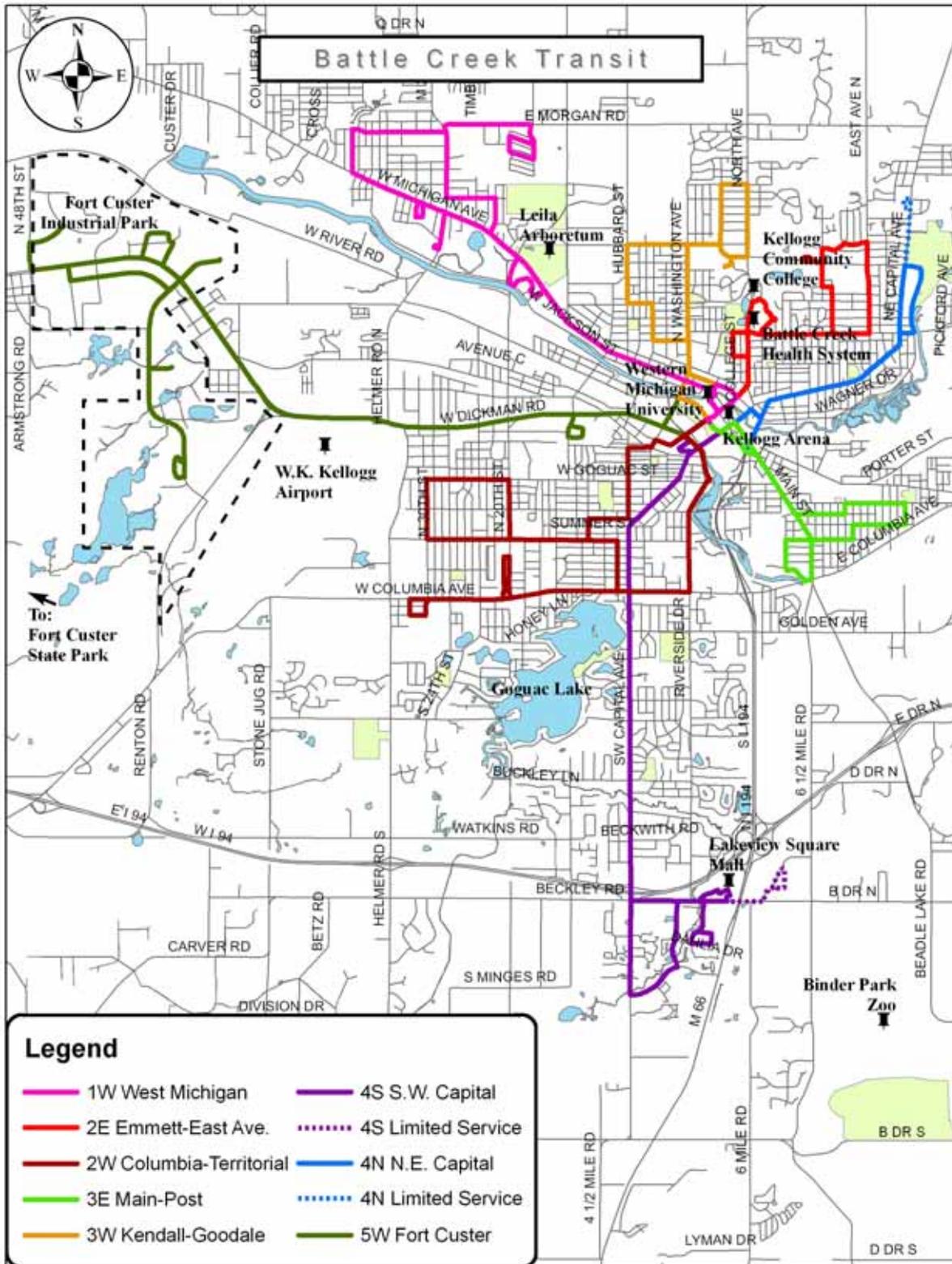
Route 2E/Emmett East Avenue

Route 2E serves northeast Battle Creek. Some of its primary stops are Kellogg Community College, the Calhoun Area Technology Center and the Battle Creek Health Systems. This route operates on one-hour headways and also leaves the Transportation Center at 15 minutes past the hour, returning at 43 minutes past the hour. This route is interlined with Route 4N/NE Capital Avenue.

Route 2W/Columbia-Territorial

The Columbia-Territorial route serves the southwest part of Battle Creek and operates on a one-hour headway. Columbia Plaza and Meijer are key destinations on this route. It departs from the Transportation Center at 15 minutes past the hour.

Figure 2-1
Fixed Route System



Route 3E/Main-Post

The 3E route operates in an area southeast of downtown. Service is provided on 30-minute headways leaving the Transit Center at 15 minutes before the hour and, also, 15 minutes past the hour. Glenwood Trace Apartments and the Post Cereal facility are located along this route.

Route 3W/Kendall-Goodale

Route 3W operates in an area of Battle Creek north of downtown. It serves residential areas along and to the east and west of North Washington Avenue. It departs the Transportation Center every 30 minutes at 15 minutes before and 15 minutes after the hour.

Route 4N/NE Capital Avenue

This route operates on one-hour headways and is interlined with Route 2E/Emmett-East Avenue. It departs the Transportation Center at 15 minutes before the hour. It serves the City Hall and Cherry Hill Manor. It also provides limited service to the Felpausch store on Northeast Capital Avenue.

Route 4S/SW Capital Avenue

This route operates on one-hour headways and departs the Transportation Center at 15 minutes after the hour. It serves Lakeview Square Mall, Minges Brook Mall, Landings Apartments, Arbors Apartments, and Southwest Eye Center. Limited service is provided to the Meijer store located on Beckley Road.

Route 5W/Fort Custer-VA Hospital

This route serves the west side of Battle Creek. It operates on 30-minute headways during the morning and afternoon peak and on one-hour headways the rest of the day. It leaves the Transportation Center at 15 minutes before and 15 minutes after the hour. The primary purpose of this route is to serve the businesses in the Fort Custer Industrial Park and the VA Hospital. Key stops along the route include the VA Hospital, Denso, Il Stanley, the Regional Technology Center and Liberty Commons.

Tele-Transit

Battle Creek Transit's Tele-Transit service is a door-to-curb service that provides ADA service to the elderly and disabled. An advanced reservation is required and reservations can be made up to two weeks in advance. It operates the same days and hours as the fixed-route service. The fare for a one-way trip is \$2. The service is also available to the general public at a fare of \$7 per one-way trip. Battle Creek Transit also offers evening dial-a-ride service, Monday through Friday, from 6:00 p.m. to 11:30 p.m. This service is open to all area residents, but is primarily intended for workers needing transportation to their jobs and residents that need to do their shopping in the evening. The fare is \$5 per one-way trip. A 24-hour advance reservation is required.

3. Demographics and Community Profile

Population Characteristics

The population of Battle Creek has remained steady over the past six years (Table 3-1). The 2000 Census data for Battle Creek list the population at 53,546. The 2006 estimate for the City shows population growth of less than 300 residents over the past six years. Growth in Calhoun County and the State of Michigan is also minimal. The City of Battle Creek's population declined between 1960 and 1970. Between 1980 and 1990, the population grew dramatically and then showed only minimal fluctuations between 1990 and 2000 and between 2000 and 2006.

Table 3-1
Population Trends

	Battle Creek	Calhoun County	Michigan
2006 Estimate	53,827	137,991	10,095,643
2000	53,251	137,985	9,938,444
1990	53,540	135,982	9,295,044
1980	35,724	141,579	9,262,044
1970	38,931	141,963	8,881,826
1960	44,169	138,858	7,823,194

Source: U.S. Census Bureau

As of the 2000 Census, Battle Creek was comprised of 21,372 households (Table 3-2). This is about 39 percent of the households in the county.

Table 3-2
Households
(2000)

	Battle Creek	Calhoun County	Michigan
Households	21,372	54,161	3,788,780

Source: U.S. Census Bureau, Census 2000

Table 3-3 contains a breakdown of the racial composition of Battle Creek. The city of Battle Creek has a higher percentage of African American residents than Calhoun County or the state of Michigan. Battle Creek also has a slightly higher percentage of American Indian residents than the surrounding county or the state in addition to a slightly higher percentage of Hispanic or Latino residents.

Table 3-3
Race

	Battle Creek		Calhoun County		Michigan	
	Number	Percent	Number	Percent	Number	Percent
White	38,448	72.2	113,765	82.4	7,805,325	78.5
Black or African American	9,538	17.9	14,717	10.7	1,391,487	14.0
American Indian and Alaska Native	428	0.8	900	0.7	56,373	0.6
Asian	942	1.8	1,425	1.0	173,480	1.7
Native Hawaiian and Other Pacific Islander alone	0	0.0	2	0.0	2,121	0.0
Some other race	46	0.1	115	0.1	10,605	0.1
Two or more	1,445	2.7	2,694	2.0	176,893	1.8
Hispanic or Latino	2,404	4.5	4,367	3.2	322,160	3.2
Total	53,251	100.0	137,985	100.0	9,938,444	100.0

Source: U.S. Census Bureau, Census 2000

The age breakdown of Battle Creek residents is similar to that of Calhoun County and the state of Michigan (Table 3-4). As of the 2000 Census, 17.2 percent of Battle Creek's population was 60 or over. The national trend of aging of the population will increase the percentage of senior citizens in the coming years.

Table 3-4
Age

	Battle Creek		Calhoun County		Michigan	
	Number	Percent	Number	Percent	Number	Percent
Under 18 years	14,431	27.1	35,773	25.9	2,592,595	26.1
18 to 59 years	29,646	55.7	77,587	56.2	5,749,565	57.9
60 years and over	9,174	17.2	24,625	17.8	1,596,284	16.1
Total	53,251	100.0	137,985	100.0	9,938,444	100.0

Source: U.S. Census Bureau, Census 2000

Approximately 19,850 of Battle Creek's 22,482 working residents work in Calhoun County (Table 3-5). Of those, 14,994 work in Battle Creek.

Table 3-5
Place of Work
(workers 16 years and over)

	Battle Creek	Calhoun County	Michigan
Worked in state of Michigan	22,363	61,248	4,468,252
Worked in Calhoun County	19,850	51,146	--
Worked in Battle Creek	14,944	--	--
Worked outside Calhoun County	2,513	10,102	--
Worked outside state of Michigan	119	401	72,120
Total	22,482	61,649	4,540,372

Source: U.S. Census Bureau, Census 2000

In terms of means of transportation to work, 87.6 percent of Battle Creek workers drove alone to work (Table 3-6). Approximately 1.7 percent use public transportation to get to work. The rate of those using public transportation is slightly higher than that for Calhoun County Residents and also those living in Michigan.

Table 3-6
Means of Transportation to Work
(workers 16 years and over)

	Battle Creek		Calhoun County		Michigan	
	Number	Percent	Number	Percent	Number	Percent
Car, truck, or van	20,937	93.1	57,191	92.8	4,217,141	92.9
Drove alone	18,351	87.6	50,708	88.7	3,776,535	89.6
Carpooled	2,586	12.4	6,483	11.3	440,606	10.4
Public transportation	378	1.7	586	1.0	60,537	1.3
Motorcycle	8	0.0	29	0.0	1,698	0.0
Bicycle	42	0.2	90	0.1	10,034	0.2
Walked	471	2.1	1,678	2.7	101,506	2.2
Other means	151	0.7	373	0.6	21,691	0.5
Worked at home	495	2.2	1,702	2.8	127,765	2.8
Total	22,482	100.0	61,649	100.0	4,540,372	100.0

Source: U.S. Census Bureau, Census 2000

Most of the workers living in Battle Creek (80 percent) have a commute time of less than 29 minutes (Table 3-7). This is difficult to achieve using public transportation.

Table 3-7
Travel Time to Work
(workers 16 years and over)

	Battle Creek		Calhoun County		Michigan	
	Number	Percent	Number	Percent	Number	Percent
Less than 5 minutes	1,155	5.1	2,988	4.8	158,315	3.5
5 to 9 minutes	3,573	15.9	8,851	14.4	507,653	11.2
10 to 14 minutes	5,703	25.4	12,991	21.1	681,990	15.0
15 to 19 minutes	4,982	22.2	11,903	19.3	708,036	15.6
20 to 24 minutes	2,564	11.4	8,555	13.9	675,865	14.9
25 to 29 minutes	768	3.4	2,934	4.8	291,938	6.4
30 to 34 minutes	1,281	5.7	4,661	7.6	546,870	12.0
35 to 39 minutes	255	1.1	1,062	1.7	126,158	2.8
40 to 44 minutes	176	0.8	1,057	1.7	147,930	3.3
45 to 59 minutes	715	3.2	2,563	4.2	304,785	6.7
60 to 89 minutes	462	2.1	1,216	2.0	171,403	3.8
90 or more minutes	353	1.6	1,166	1.9	91,664	2.0
Worked at home	495	2.2	1,702	2.8	127,765	2.8
Total	22,482	100.0	61,649	100.0	4,540,372	100.0

Source: U.S. Census Bureau, Census 2000

Of the workers using public transportation, 49.2 percent had a travel time to work of less than 30 minutes (Table 3-8). Of those using other means to commute to work, 85.9 percent had a travel time of 30 minutes or less. Other means includes those walking, biking, driving and carpooling. Generally, those using public transportation had a longer commute time.

Table 3-8
Travel Time to Work by Means of Transportation
(workers 16 years and over)

	Battle Creek		Calhoun County		Michigan	
	Number	Percent	Number	Percent	Number	Percent
Less than 30 minutes:	18,745	85.3	48,222	80.4	3,023,797	68.5
Public transportation	186	49.2	317	54.1	22,019	36.4
Other means	18,559	85.9	47,905	80.7	3,001,778	69.0
30 to 44 minutes:	1,712	7.8	6,780	11.3	820,958	18.6
Public transportation	119	31.5	156	26.6	14,326	23.7
Other means	1,593	7.4	6,624	11.2	806,632	18.5
45 to 59 minutes:	715	3.3	2,563	4.3	304,785	6.9
Public transportation	19	5.0	25	4.3	8,003	13.2
Other means	696	3.2	2,538	4.3	296,782	6.8
60 or more minutes:	815	3.7	2,382	4.0	263,067	6.0
Public transportation	54	14.3	88	15.0	16,189	26.7
Other means	761	3.5	2,294	3.9	246,878	5.7
Total	21,987	100.0	59,947	100.0	4,412,607	100.0
Total Public Transportation	378	100.0	586	100.0	60,537	100.0
Total Other Means	21,609	100.0	59,361	100.0	4,352,070	100.0

Source: U.S. Census Bureau, Census 2000

Approximately 22.8 percent of Battle Creek residents ages five or over report some type of disability (Table 3-9). This is often a segment of the population that may be transit dependent with limited alternatives for meeting their transportation needs.

Table 3-9
Disability Status by Employment Status
(population five years and over)

	Battle Creek	Calhoun County	Michigan
5 to 15 years:	8,910	22,446	1,635,123
With a disability	785	1,729	108,655
No disability	8,125	20,717	1,526,468
16 to 20 years:	3,320	9,547	700,815
With a disability:	556	1,289	88,956
Employed	224	579	45,273
Not employed	332	710	43,683
No disability:	2,764	8,258	611,859
Employed	1,283	4,133	313,200
Not employed	1,481	4,125	298,659
21 to 64 years:	29,053	76,835	5,631,322
With a disability:	6,523	15,932	1,017,943
Employed	3,420	8,498	557,560
Not employed	3,103	7,434	460,383
No disability:	22,530	60,903	4,613,379
Employed	17,339	47,831	3,592,056
Not employed	5,191	13,072	1,021,323
65 to 74 years:	3,429	9,797	639,659
With a disability	1,256	3,397	206,735
No disability	2,173	6,400	432,924
75 years and over:	3,540	8,409	531,421
With a disability	1,895	4,496	288,942
No disability	1,645	3,913	242,479
Total	48,252	127,034	9,138,340

Source: U.S. Census Bureau, Census 2000

The unemployment rate for the city of Battle Creek was 6.6 percent as of the 2000 Census (Table 3-10). The rate of unemployment for the city was higher than that of the county and the state. The most recent rate of unemployment for the Battle Creek Metropolitan Area was 6.7 percent for December 2007 as reported by the Bureau of Labor Statistics, U.S. Department of Labor, compared to a rate of 7.4 percent for the state of Michigan and national rate of 4.8 percent.

Table 3-10
Employment Status
(population 16 years and over)

	Battle Creek		Calhoun County		Michigan	
	Number	Percent	Number	Percent	Number	Percent
Employed	23,052	93.4	62,956	94.2	4,637,461	94.2
Unemployed	1,623	6.6	3,870	5.8	284,992	5.8
Total Civilian Labor Force	24,675	100.0	66,826	100.0	4,922,453	100.0

Source: U.S. Census Bureau, Census 2000

Key employment industries in the city of Battle Creek are manufacturing and also educational, health and social services (Table 3-11). BCT provides service to many of the area's manufacturers with Route 5W/Fort Custer and also to Battle Creek Health Systems via Route 2E/Emmet-East Avenue.

Table 3-11
Employment by Industry

	Battle Creek		Calhoun County		Michigan	
	Number	Percent	Number	Percent	Number	Percent
Agriculture, forestry, fishing and hunting, and mining	27	0.1	655	1.0	49,496	1.1
Construction	902	3.9	2,928	4.7	278,079	6.0
Manufacturing	5,656	24.5	16,428	26.1	1,045,651	22.5
Wholesale trade	526	2.3	1,461	2.3	151,656	3.3
Retail trade	2,598	11.3	7,180	11.4	550,918	11.9
Transportation and warehousing, and utilities	1,074	4.7	2,682	4.3	191,799	4.1
Information	326	1.4	834	1.3	98,887	2.1
Finance, insurance, real estate and rental and leasing	1,009	4.4	2,905	4.6	246,633	5.3
Professional, scientific, management, administrative, and waste management services	1,326	5.8	3,591	5.7	371,119	8.0
Educational, health and social services	4,733	20.5	12,661	20.1	921,395	19.9
Arts, entertainment, recreation, accommodation and food services	2,172	9.4	4,934	7.8	351,229	7.6
Other services (except public administration)	1,294	5.6	3,164	5.0	212,868	4.6
Public administration	1,409	6.1	3,533	5.6	167,731	3.6
Total	23,052	100.0	62,956	100.0	4,637,461	100.0

Source: U.S. Census Bureau, Census 2000

The higher rate of unemployment also leads to a larger percentage of the households with an income of less than \$10,000 annually compared to Calhoun County and the state of Michigan (Table 3-12). Approximately 11.7 percent of Battle Creek households had an income of less than \$10,000 as of the 2000 Census.

Table 3-12
Household Income
(1999)

	Battle Creek		Calhoun County		Michigan	
	Number	Percent	Number	Percent	Number	Percent
Less than \$10,000	2,494	11.7	4,851	9.0	313,905	8.3
\$10,000 to \$14,999	1,658	7.8	3,906	7.2	219,133	5.8
\$15,000 to \$19,999	1,679	7.9	3,808	7.0	227,379	6.0
\$20,000 to \$24,999	1,533	7.2	3,803	7.0	241,721	6.4
\$25,000 to \$29,999	1,574	7.4	3,858	7.1	236,089	6.2
\$30,000 to \$34,999	1,600	7.5	3,971	7.3	234,330	6.2
\$35,000 to \$39,999	1,302	6.1	3,518	6.5	219,661	5.8
\$40,000 to \$44,999	1,186	5.5	3,228	6.0	214,406	5.7
\$45,000 to \$49,999	1,029	4.8	2,783	5.1	190,259	5.0
\$50,000 to \$59,999	1,882	8.8	5,200	9.6	353,430	9.3
\$60,000 to \$74,999	2,114	9.9	6,100	11.3	425,325	11.2
\$75,000 to \$99,999	1,806	8.5	4,973	9.2	432,681	11.4
\$100,000 to \$124,999	811	3.8	2,165	4.0	222,789	5.9
\$125,000 to \$149,999	339	1.6	944	1.7	102,177	2.7
\$150,000 to \$199,999	180	0.8	571	1.1	79,291	2.1
\$200,000 or more	185	0.9	482	0.9	76,204	2.0
Total	21,372	100.0	54,161	100.0	3,788,780	100.0

Source: U.S. Census Bureau, Census 2000

As one might expect, given the larger share of households with lower incomes, the median household income for Battle Creek was lower than that of Calhoun County and the State of Michigan (Table 3-13).

Table 3-13
Median Household Income
(1999)

	Battle Creek	Calhoun County	Michigan
Median household income in 1999	\$35,491	\$38,918	\$44,667

Source: U.S. Census Bureau, Census 2000

The rate of households living below the poverty level for the city of Battle Creek was higher than that of Calhoun County and the state of Michigan (Table 3-14). As of the 2000 Census, 14 percent of

all city households lived below the poverty level compared to 10.9 percent for the county and 10.1 percent for the state of Michigan.

Table 3-14
Households in Poverty

	Battle Creek		Calhoun County		Michigan	
	Number	Percent	Number	Percent	Number	Percent
Income in 1999 below poverty level:	2,999	14.0	5,882	10.9	382,871	10.1
Total	21,372	100.0	54,161	100.0	3,788,780	100.0

Source: U.S. Census Bureau, Census 2000

Those that rent their residences are often more likely to use or need public transportation. The city of Battle Creek has a higher proportion of renter-occupied housing than the county or the state (Table 3-15).

Table 3-15
Housing Units by Tenure

	Battle Creek		Calhoun County		Michigan	
	Number	Percent	Number	Percent	Number	Percent
Owner occupied	14,074	66	39,485	73	2,793,346	74
Renter occupied	7,274	34	14,615	27	992,315	26
Total	21,348	100	54,100	100	3,785,661	100

Approximately 62.7 percent of households in Battle Creek are made up of one or two people (Table 3-16). This is a slightly higher rate of small households than the county or the state.

Table 3-16
Household Size

	Battle Creek		Calhoun County		Michigan	
	Number	Percent	Number	Percent	Number	Percent
1-person household	6,790	31.8	15,032	27.8	993,625	26.2
2-person household	6,589	30.9	18,175	33.6	1,247,608	33.0
3-person household	3,369	15.8	8,771	16.2	611,302	16.1
4-person household	2,711	12.7	7,343	13.6	542,516	14.3
5-person household	1,220	5.7	3,183	5.9	254,348	6.7
6-person household	447	2.1	1,032	1.9	88,034	2.3
7-or-more-person household	222	1.0	564	1.0	48,228	1.3
Total	21,348	100.0	54,100	100.0	3,785,661	100.0

Source: U.S. Census Bureau, Census 2000

In the city of Battle Creek, approximately 11.9 percent of the households did not have access to a vehicle (Table 3-17). This is potentially 2,534 transit-dependent households.

Table 3-17
Vehicles Available by Housing Unit

	Battle Creek		Calhoun County		Michigan	
	Number	Percent	Number	Percent	Number	Percent
No vehicle available	2,534	11.9	4,436	8.2	290,240	7.7
1 vehicle available	8,811	41.3	19,271	35.6	1,277,655	33.7
2 vehicles available	7,482	35.0	21,176	39.1	1,541,576	40.7
3 vehicles available	1,944	9.1	6,775	12.5	486,498	12.9
4 vehicles available	441	2.1	1,752	3.2	136,894	3.6
5 or more vehicles available	136	0.6	690	1.3	52,798	1.4
Total	21,348	100.0	54,100	100.0	3,785,661	100.0

Source: U.S. Census Bureau, Census 2000

Transportation Generators

Scattered throughout Battle Creek and the surrounding townships are centers of activity that generate transportation trips. They are known as transportation generators and include places such as major employers; schools and colleges; shopping centers and areas; health care facilities; public facilities such as a city hall or other governmental buildings, libraries and recreation centers; community services such as social service agencies and facilities; and, transportation facilities such as transit transfer locations and airports.

Shown in Figure 3-1 are some of the major transportation generators in the Battle Creek Area. These include many of the major employers in the Fort Custer Industrial Park as well as Kellogg and Post manufacturing facilities. Health care facilities such as Battle Creek Health Systems and the VA hospital are shown on the map. Major shopping areas in Battle Creek include Lakeview Square Mall, Meijer Stores, Felpausch Stores, Wal-Mart, etc. Educational facilities include middle schools, high schools and the community college.

As shown in Figure 3-1, BCT does provide access to most of the major transportation generators in the Battle Creek area. There are areas in the outlying townships, many off the map, in which Battle Creek area residents have expressed interest. These include locations in the surrounding townships and county such as Binder Park Zoo, the casinos that are under development, and Marshall.

Transit Demographics

There are certain demographic characteristics that are indicators of transit need or characteristics of people that may use transit at a higher rate than the general population. These include population density, senior citizens, persons living below the poverty level, and households without access to a vehicle. These are all demographics that can be found in U.S. Census data.

Figure 3-2 is a map of population density for the Battle Creek area. It shows the residential population per square mile based on 2000 U.S. Census Tract data. Transit service is generally much more productive in areas of higher population density. The greater the population density, the larger the potential market for transit. As shown in the Battle Creek area, centrally located neighborhoods are more densely populated and the farther you get from the center of Battle Creek, the lower the population density.

The BCT route system is focused on the higher density locations in the Battle Creek area. Routes such as 5W/Fort Custer and 4S/S.W. Capital extend out into lower density areas of the community, but do so to serve areas of employment and retail activity. Also of note is that the density mapped is from the 2000 Census, the most recent data available for small geographic areas, and that residential growth has occurred in the area along the corridor covered by Route 4S/SW Capital.

Older persons often give up driving when they feel they are no longer able to do so safely. Figure 3-3 shows the density of senior citizens. As with Figure 3-3, these data were taken from the 2000 U.S. Census and represent the density of persons 60 and older by Census Tract. Higher densities of seniors are located more central to Battle Creek. Densities decrease in areas in the surrounding townships.

Persons living below the poverty level are often unable to afford a vehicle or the associated fuel and maintenance. Figure 3-4 is a map depicting the density of households living below the poverty level. The highest concentrations of poverty are located in the center of Battle Creek and decrease in density in the surrounding townships. The existing BCT route structure covers the areas with higher levels of poverty.

Included in the U.S. Census is a count of households without access to a vehicle. This is a good measure of transit-dependent households. Figure 3-5 is a map of the density of households without a vehicle. It closely mirrors the density of households living below the poverty level.

If combined, the transit-related demographics described above can be combined to show areas that potentially have a need for transit services. This is called a transit propensity analysis. The analysis combines population density, the density of senior citizens, the density of households living below the poverty level, and the density of households without a vehicle at the Census Tract level. The factors for each characteristic are combined and a rank is assigned to each geographic area or Census Tract. Thus, the rank of each Census Tract is relative to the area being analyzed, not national statistics or averages. Each tract is then assigned a transit propensity of low, medium, high or very high based on its rank. This provides a good indicator of where transit services should be focused in the study area. Figure 3-6 is a transit propensity analysis for the Battle Creek area. As shown, the centrally located portions of Battle Creek have a very high transit propensity and it diminishes as you move out toward the surrounding townships. The existing BCT route structure covers the areas most likely to use transit services.

Figure 3-1
Transportation Generators

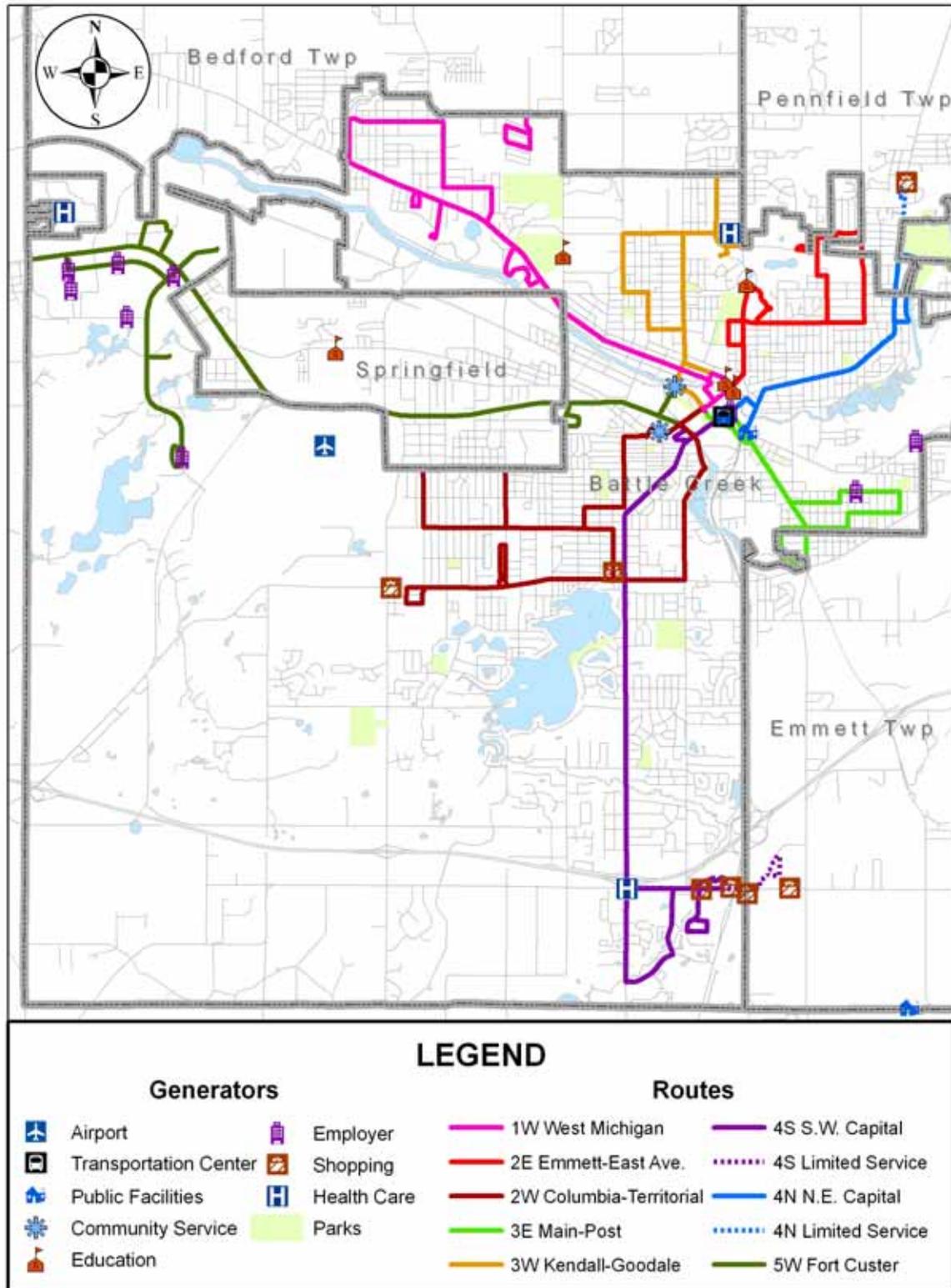


Figure 3-2
Population Density

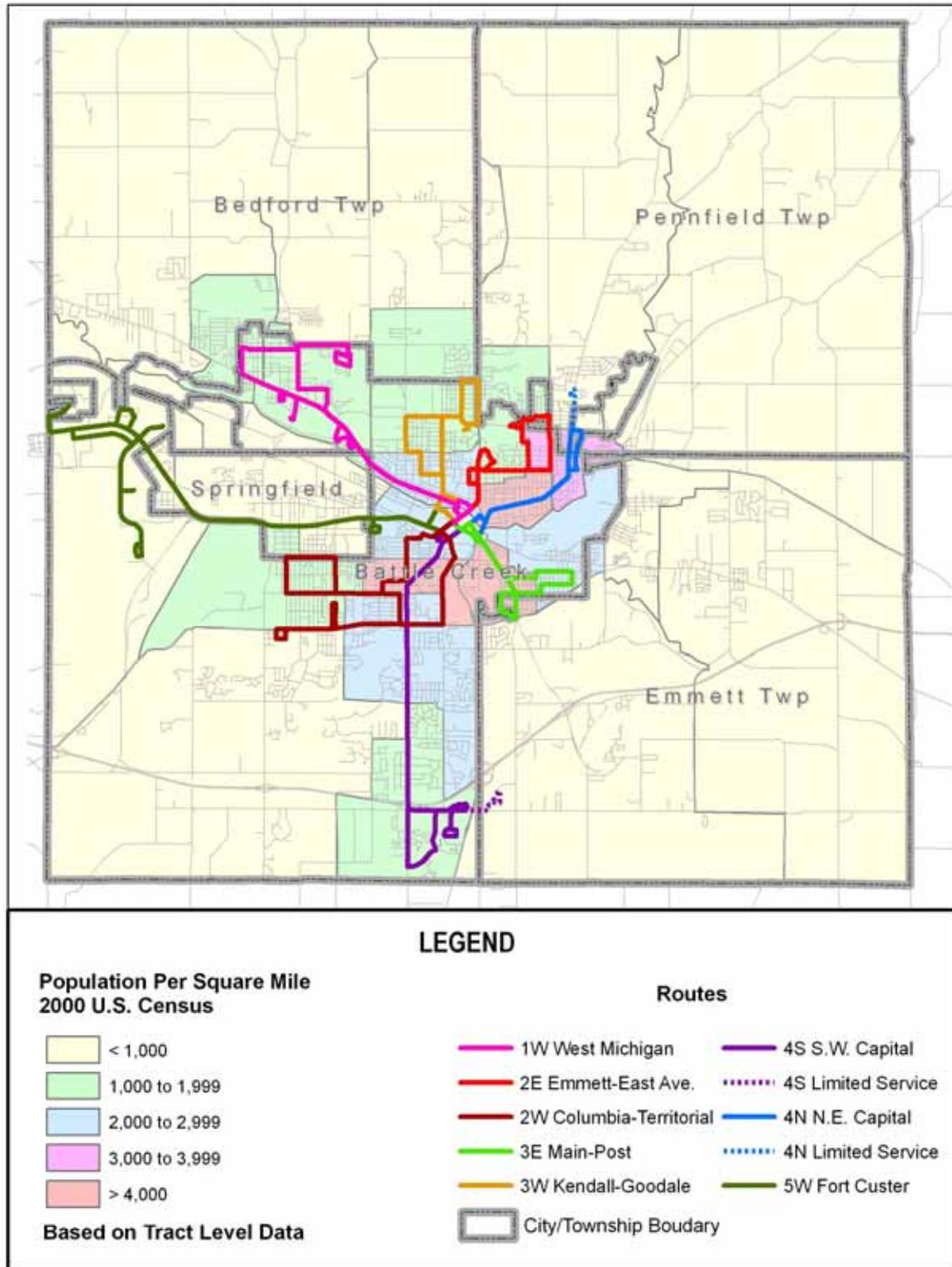


Figure 3-3
Density of Seniors

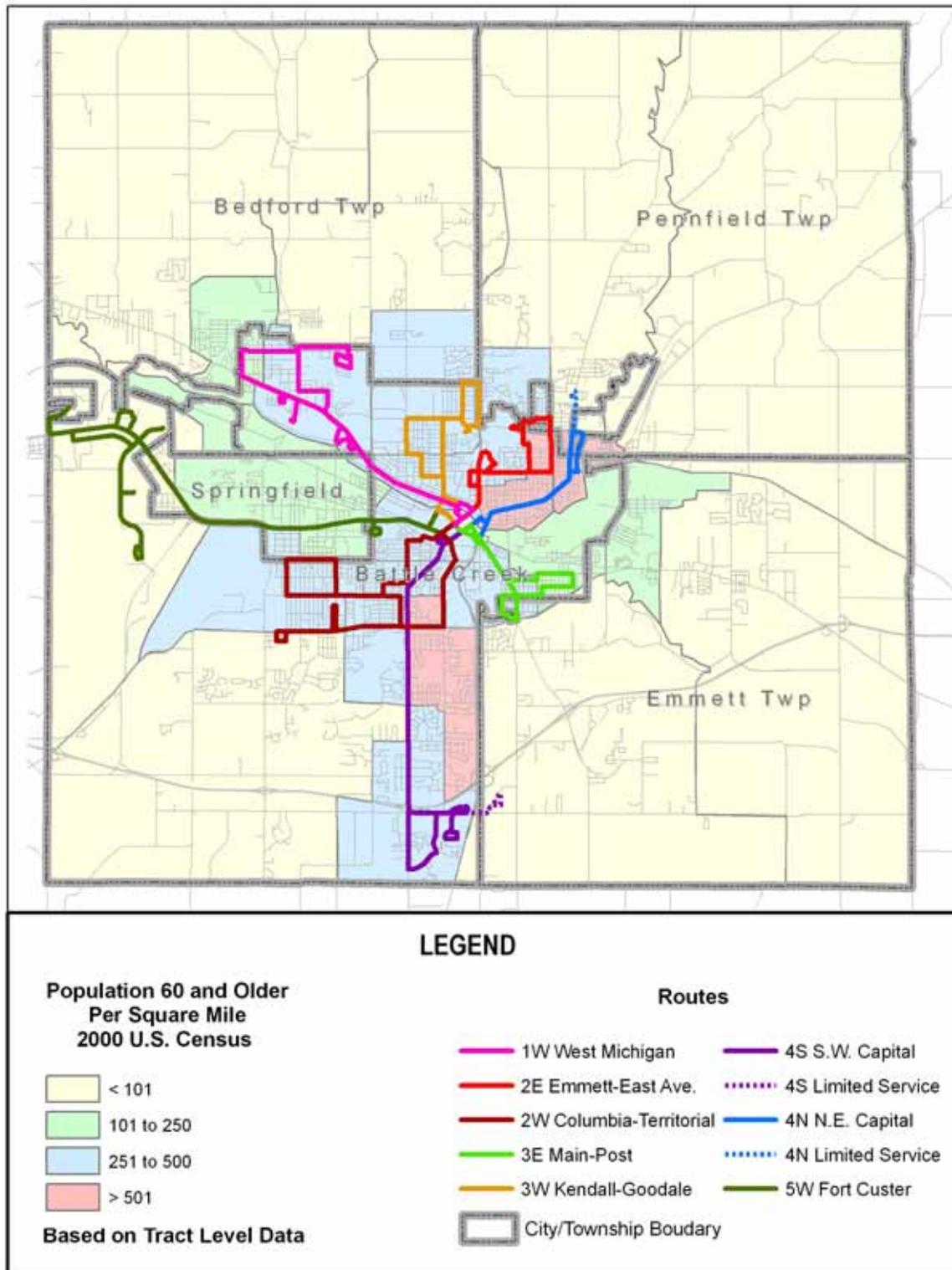


Figure 3-4
Density of Households below the Poverty Level

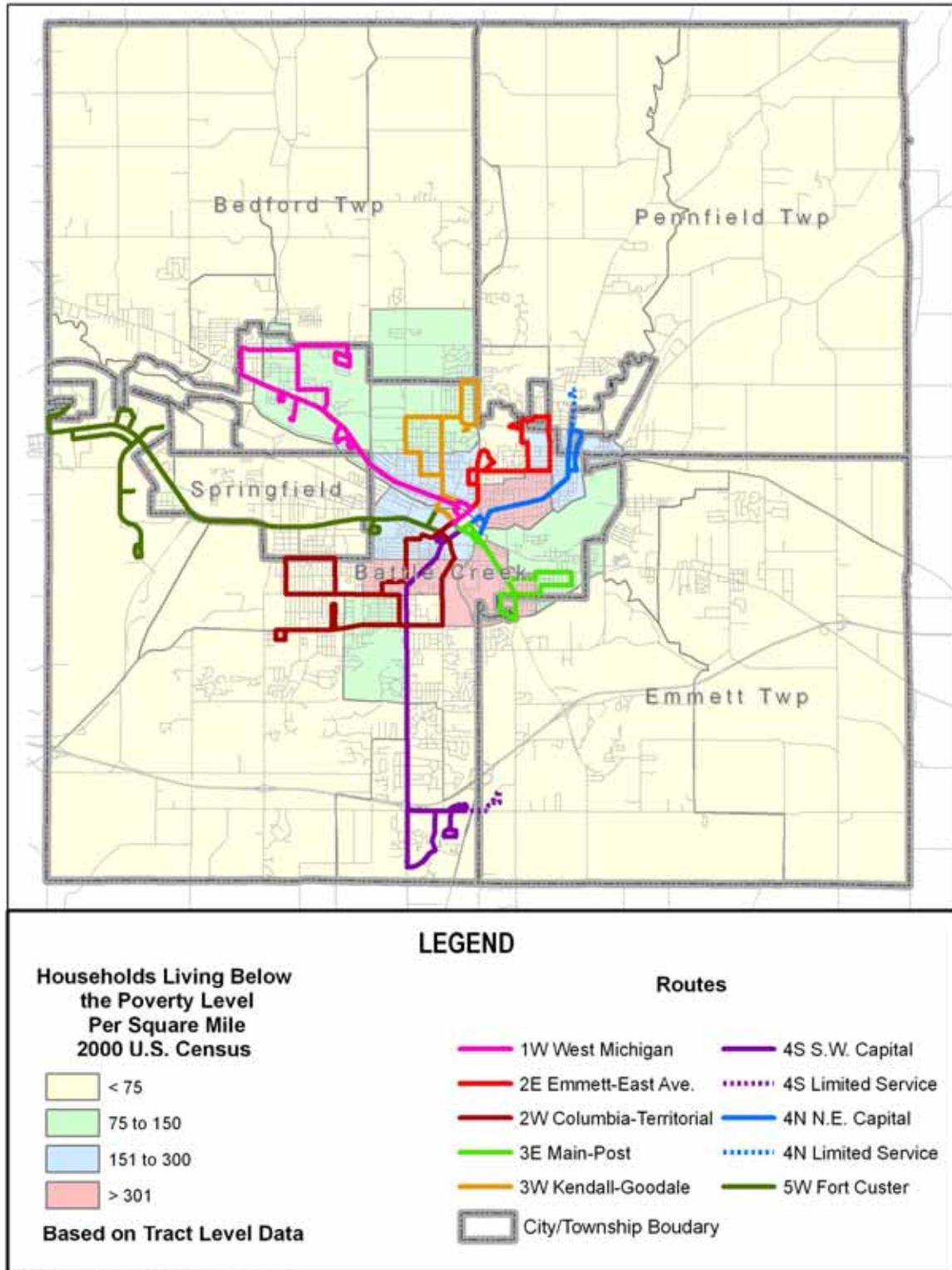


Figure 3-5
Density of Households without a Vehicle

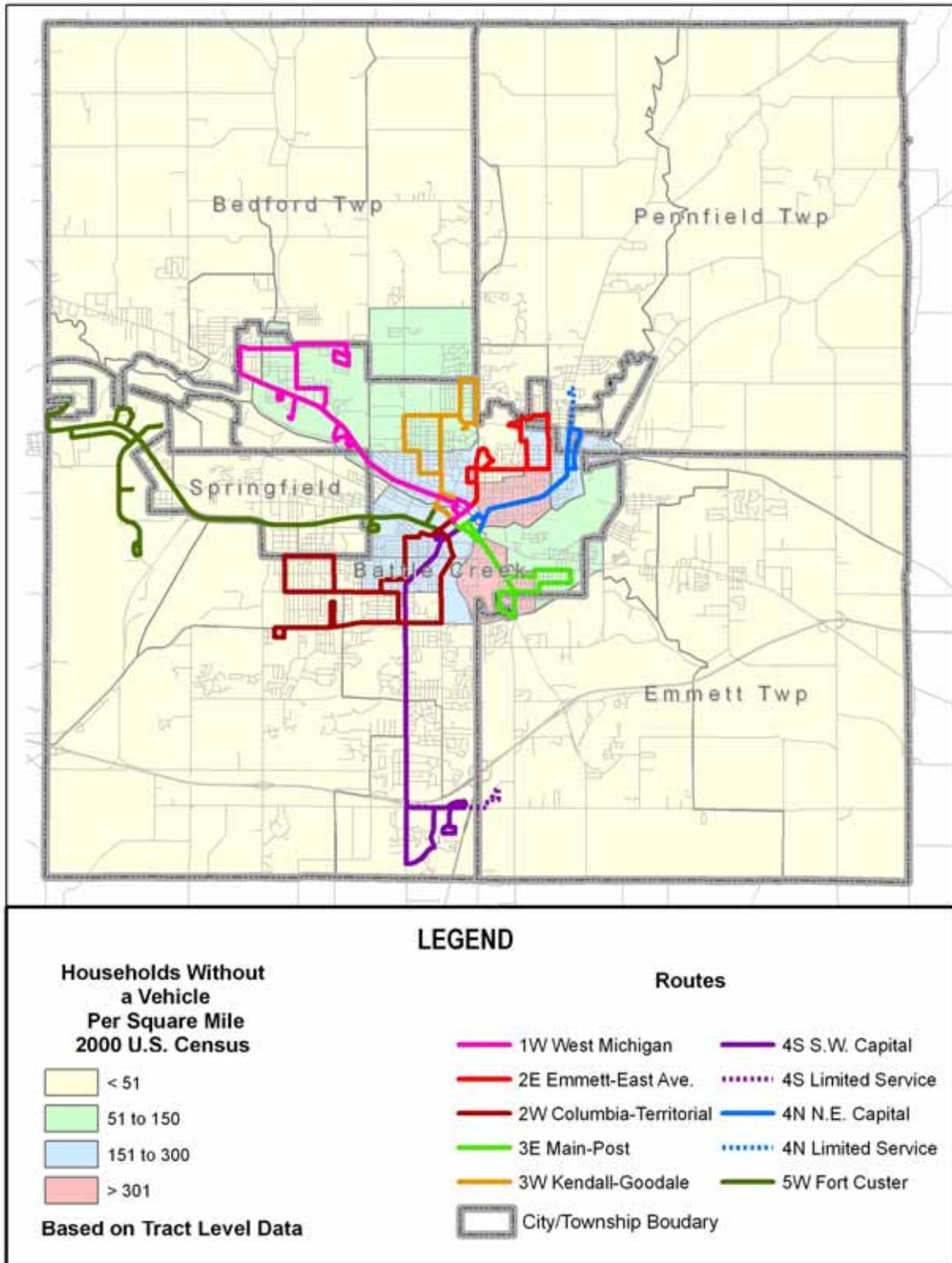
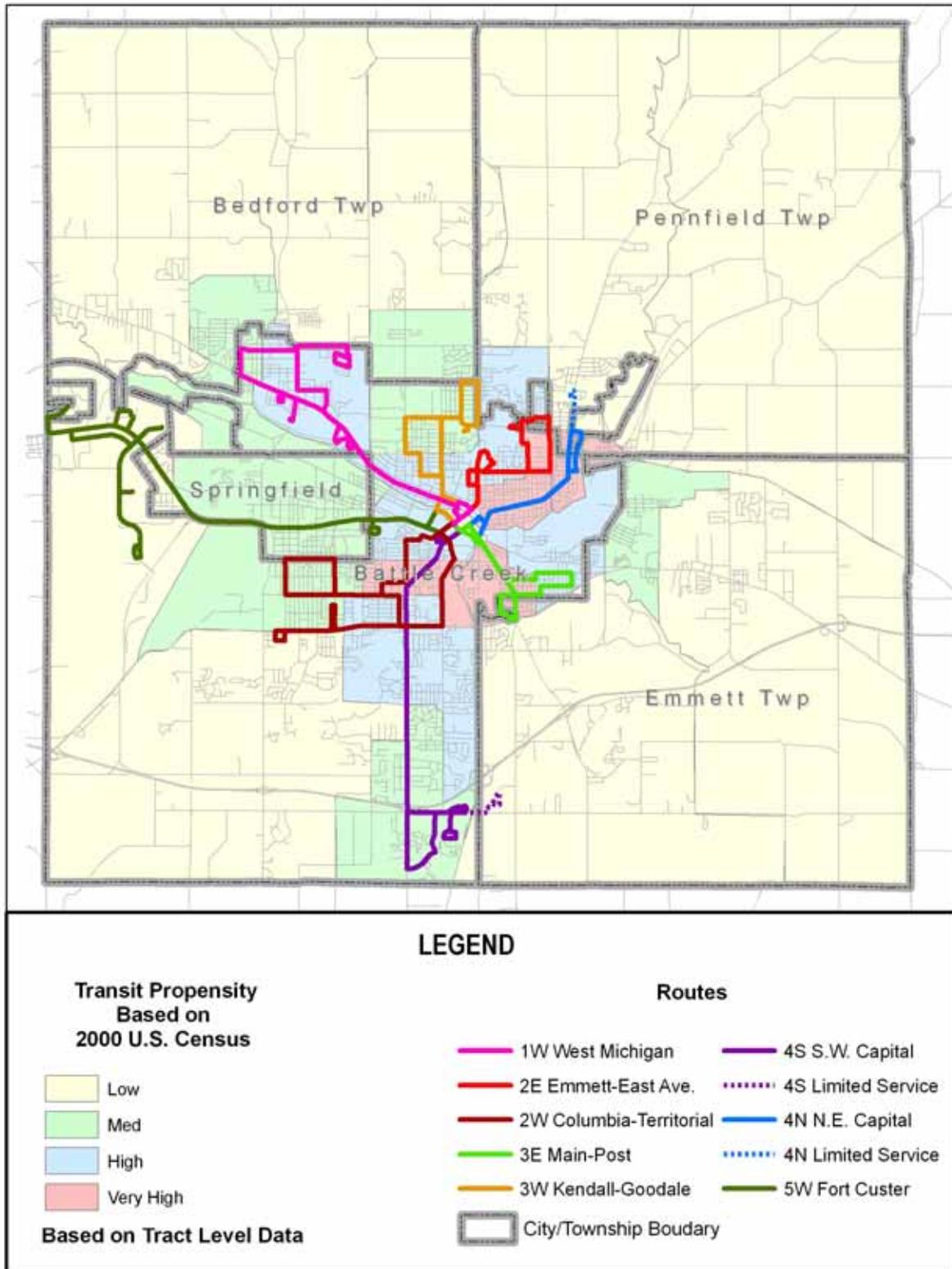


Figure 3-6
Transit Propensity



4. Public Outreach

During the course of the transit planning study, two surveys were conducted, an onboard survey of riders and a general public mail-back survey. Stakeholder focus groups were also held early in the planning study.

Onboard Ridership Survey

An onboard survey of the BCT ridership was conducted on May 13 and 14, 2008. The survey effort resulted in 491 survey responses. Surveys were conducted on all routes across all time periods of the service day. The surveys were collected using an intercept method where the surveyors rode on the buses and interviewed passengers during their trip.

Table 4-1 contains a breakdown of surveys collected by route. All routes were well represented in the database of collected responses.



Corradino Employee Conducting On-board Survey

Table 4-1
Surveys Collected by Route

Route	Number
1W	59
2E	61
2W	73
3E	47
3W	54
4N	52
4S	88
5W	57
Total	491

As shown in Table 4-2, the surveys were collected throughout the daily span of service. The number of questionnaires collected peak with the peaks in ridership during various portions of the day. About 28 percent of the surveys were collected before 9:00 a.m., 51 percent collected between 9:00 a.m. and 3:00 p.m., and the remaining 21 percent collected after 3:00 p.m.

Table 4-2
Trip Time

Time	Number	Percent
5:45:00 AM	1	0.2
6:15:00 AM	22	4.5
6:45:00 AM	20	4.1
7:15:00 AM	47	9.6
7:45:00 AM	14	2.9
8:15:00 AM	26	5.3
8:45:00 AM	8	1.6
9:15:00 AM	34	6.9
9:45:00 AM	3	0.6
10:15:00 AM	32	6.5
10:45:00 AM	8	1.6
11:15:00 AM	48	9.8
11:45:00 AM	12	2.4
12:15:00 PM	41	8.4
12:45:00 PM	2	0.4
1:15:00 PM	22	4.5
2:15:00 PM	46	9.4
2:45:00 PM	5	1.0
3:15:00 PM	63	12.8
3:45:00 PM	7	1.4
4:15:00 PM	30	6.1
Total	491	100.0

BCT has a high percentage of riders that transfer from one route to another in order to complete their trip. Most transfers occur at the Transportation Center in Downtown Battle Creek. As shown in Table 4-3, approximately 42.5 percent of the riders surveyed boarded the bus at the Transportation Center.

Table 4-3
Boarding Location

Response	Number	Percent
Downtown Transportation Center	207	42.5
Other	280	57.5
Total	487	100.0

The primary means of getting to the BCT bus stop from which they boarded was walking, as indicated by 71.6 percent of the respondents (Table 4-4). Nearly 26 percent transferred from another BCT bus.

Table 4-4
How did you get to where you boarded the bus?

Response	Number	Percent
Walked	345	71.6
Transferred from another BCT bus	124	25.7
Dropped off by auto	8	1.7
Bicycle	5	1.0
Total	482	100.0

When asked where they would get off the bus, 44.1 percent indicated they would get off the bus at the Transportation Center (Table 4-5).

Table 4-5
Where will you get off the bus?

Response	Number	Percent
Downtown Transportation Center	186	44.1
Other	236	55.9
Total	422	100.0

The majority of the respondents, 74.1 percent, indicated that they would walk from the point where they exited the bus to their final destination (Table 4-6). Another 24.6 percent indicated they would transfer to another BCT bus.

Table 4-6
How will you get to your final destination?

Response	Number	Percent
Walked	358	74.1
Transfer to another BCT bus	119	24.6
Dropped off by auto	4	0.8
Bicycle	2	0.4
Total	483	100.0

The most common trip purpose was work (Table 4-7). Approximately 34 percent of the respondents indicated they were on their way to or from work. Personal business was the next most common response at about 26 percent. A large number of those listing personal business were in the process of a job search doing activities such as researching job opportunities and filling out applications. Shopping was also a common trip purpose, with approximately 12 percent of the respondents on their way to or from shopping. Another 8.6 percent of the respondents were making a trip for educational purposes. There were students going to Kellogg Community College, some high school students, and a number of parents accompanying their elementary school children on the bus to and from school.

Table 4-7
What is the purpose of your trip?

Response	Number	Percent
Work	165	33.8
Shopping	56	11.5
School	42	8.6
Personal business	126	25.8
Recreation	19	3.9
Medical	41	8.4
Other	39	8.0
Total	488	100.0

Riders were asked how often they rode the bus. Nearly 86 percent rode the bus daily or several times a week (Table 4-8).

Table 4-8
How often do you ride the bus?

Response	Number	Percent
Daily	308	63.6
Several times a week	107	22.1
Several times a month	15	3.1
Occasionally	54	11.2
Total	484	100.0

In an effort to determine the types of service that transit riders would like to see in the future, riders were asked if specific types of services were important to them. Not very many riders were interested in a crosstown service (Table 4-9). Over half, approximately 59 percent, would like to have service later in the evenings. Service earlier in the morning was preferred by 25.5 percent of the respondents. Nearly 40 percent would like to have service on Sunday. A small number 6.3 percent would like more service like the existing BCT Tele-Transit service.

Table 4-9
Which of the following is important to you?

Response	Number	Percent
A crosstown service	32	6.5
Service earlier in the mornings	125	25.5
Service later in the evenings	289	58.9
Sunday Service	198	40.3
More service like Tele-Transit, but at a higher price	31	6.3

There appeared to be few choice riders on the system. Only 4.3 percent would have driven their own car (Table 4-10). When asked how they would have made their trip if BCT did not exist, 31.7 percent would have gotten a ride from a friend or family member, 26.5 percent would have walked, 15 percent would have not made the trip, 13.4 percent would have used a taxi, the rest of the responses were split between riding a bike and other.

Table 4-10
If BCT did not exist, you would have...

Response	Number	Percent
Not made this trip	73	15.0
Gotten a ride	154	31.7
Used a taxi	65	13.4
Rode a bike	28	5.8
Drove own car	21	4.3
Walked	129	26.5
Other	16	3.3
Total	486	100.0

Riders were asked if an increase in the fare would affect how much they use BCT. Most respondents (73 percent) felt that, given BCT is their only transportation option, a fare increase would not impact their use of BCT (Table 4-11). There were also a considerable number of individuals that seemed genuinely surprised that with the rising cost of fuel, a fare increase had not yet been imposed.

Table 4-11
Would a fare increase affect how much you use BCT?

Response	Number	Percent
Yes	131	27.0
No	354	73.0
Total	485	100.0

As part of the surveying effort, surveyors also indicated the respondent's gender. Just over half, 53.8 percent, of the respondents were male (Table 4-12). Respondents were also categorized by age with 5.9 percent estimated to be under 18 years of age, 85.3 percent between 18 and 59, and the remaining 8.8 percent were estimated to be 60 or older (Table 4-13).

Table 4-12
Gender

Response	Number	Percent
Male	263	53.8
Female	226	46.2
Total	489	100.0

Table 4-13
Age

Response	Number	Percent
Under 18 years of age	29	5.9
18 to 59	417	85.3
60 and older	43	8.8
Total	489	100.0

General Public Survey

A general public survey was conducted in late May and Early June 2008. Questionnaires were mailed to 3,500 randomly selected residences in the city of Battle Creek, Bedford Township,

Emmett Township, Pennfield Township and the city of Springfield. The five jurisdictions had a combined 2000 Census population of 88,962. The percent of the questionnaires mailed to each jurisdiction was based on population. Since the City of Battle Creek comprised 59.9 percent of the total 88,962 residents in the area, 59.9 percent (2,095) of the questionnaires were sent to Battle Creek residents. The remaining questionnaires were distributed as follows: 378 to Bedford Township, 474 to Emmett Township, 352 to Pennfield Township, and 201 to the City of Springfield.

The address list was purchased from Accudata, a firm that specializes in mailing lists for business and market research. Enclosed in the envelope with the questionnaire was a letter from the Battle Creek City Manager that provided a description of the Battle Creek Transit Study and requested their participation in the survey. The responses were anonymous and were returned in a postage paid envelope provided in the survey mailing. Survey efforts resulted in 471 completed questionnaires. For the purpose of statistical validity, it is desirable to have a sample of approximately 400 completed surveys.

The questionnaire was a series of questions intended to assess the demographics of the respondent and their view and opinions on public transportation. The last question was open-ended and allowed for general comments. Figure 4-1 is the questionnaire.

The following is a discussion of the survey findings presented in the order the questions appeared on the questionnaire.

The first question on the survey asked if the respondent was aware that Battle Creek had a public transportation service. Nearly all of the respondents, 98.7 percent, were aware of BCT (Table 4-14).

Table 4-14

Are you aware that a public transportation service exists in Battle Creek?

Response	Number	Percent
Yes	465	98.7
No	6	1.3
Total	471	100.0

Figure 4-1
Questionnaire

Battle Creek Transit Planning Study - Household Survey

1. Are you aware that a public transportation service exists in Battle Creek?
₁ Yes ₂ No

2. Do you (or anyone in your home) use Battle Creek Transit?
₁ Yes ₂ No

3. In which City or Township do you live?
₁ Battle Creek ₂ Bedford Township ₃ Emmett Township
₄ Pennfield Township ₅ Springfield

4. If you (or anyone in your home) does not use Battle Creek Transit, why not? (check all that apply)
₁ Prefer driving
₂ Need a car for work
₃ Don't have enough information about Battle Creek Transit services and routes
₄ Takes too long
₅ Service is not frequent enough
₆ Bus does not go to where I need to go
₇ Other (please specify) _____

5. Battle Creek Transit would like to build a transit system for the future. Which of the following would be important to you? (Please indicate your response by checking the appropriate boxes.)

	Very Important	Somewhat Important	Not Important
A system that serves employment locations			
A system that connects you to shopping			
A system that gets you to school or training			
A system that provides access to medical or dental care providers			
A system that enables you to attend social or recreational activities			

6. There are a number of ways in which transit could operate in the future. Which of the following types of service would you be most willing to use, or feel is the most appropriate for the Battle Creek area?
₁ A regularly scheduled bus route ₄ An individualized taxi trip
₂ A curb-to-curb dial-a-ride type van service ₅ Other _____
₃ A carpool or vanpool service

PLEASE COMPLETE THE OTHER SIDE

Figure 4-1 (continued)

7. Of the following locations, check three that you go to the most during a typical week. If one of your top three locations is not on the list, fill in the line marked other.

- ₁ Downtown
- ₂ Beckley Road
- ₃ Fort Custer Industrial Park
- ₄ Capital Avenue
- ₅ Columbia Avenue
- ₆ Other _____

8. If you have a daily work or school commute, how long does it take to get to your destination?

- ₁ Less than 10 minutes
- ₂ 10 to 19 minutes
- ₃ 20 to 29 minutes
- ₄ 30 minutes or more

9. How expensive would a gallon of gas have to be before you would consider using a public transportation service such as Battle Creek Transit?

- ₁ \$4
- ₂ more than \$4
- ₃ \$5
- ₄ more than \$5
- ₅ I would not use public transit

10. Please indicate the number of people in your household in the following age groups?

Under 18 _____ 18 to 59 _____ 60 and older _____

11. Please indicate your total annual household income in 2007.

- ₁ Less than \$25,000
- ₂ \$25,000 to \$49,999
- ₃ \$50,000 to \$74,999
- ₄ \$75,000 to \$99,999
- ₅ more than \$100,000

12. Given the need for additional funding to support improvements to Battle Creek Transit, would you support a modest increase in local taxes to fund improvements?

- ₁ Yes ₂ No

13. Do you have any additional thoughts or ideas related to Battle Creek Transit and what the transit system should look like in the future?

A typical general public survey does not yield many public transportation users. Of those surveyed, 16.5 percent used Battle Creek Transit (Table 4-15). This is a relatively high rate of transit use for a general public survey. Data from the 2000 Census indicate that 1.7 percent of Battle Creek residents used transit for their daily work commute, one percent of Calhoun County residents used transit for their work commute, and only 1.3 percent Michigan residents commuted via public transportation.

Table 4-15
Do you (or anyone in your home) use Battle Creek Transit?

Response	Number	Percent
Yes	77	16.5
No	390	83.5
Total	467	100.0

As a means of determining the residential location of the respondents, they were asked in which municipality they lived. As would be expected from the distribution of questionnaires, the majority of respondents, 61.9 percent, lived in the City of Battle Creek. This is comparable with the 60 percent of questionnaires sent to Battle Creek residents. As shown in Table 4-16, the distribution of the returned surveys was similar to the distribution of questionnaires mailed.

Table 4-16
In which City or Township do you live?

Response	Surveys Completed		Surveys Sent	
	Number	Percent	Number	Percent
Battle Creek	284	61.9	2,095	59.9
Bedford Township	57	12.4	378	10.8
Emmett Township	65	14.2	474	13.5
Pennfield Township	32	7.0	352	10.1
Springfield	21	4.6	201	5.7
Total	459	100.0	3,500	100.0

The most common response when asked why respondents don't use Battle Creek Transit was that they prefer driving (Table 4-17). Of those surveyed, 52.8 percent of the 471 total respondents preferred driving. Another common response, 25.7 percent, was that the bus did not go where they needed to go. Some, 21.7 percent, needed their car for work, while 17.6 percent felt they needed more information on BCT service. Some also felt that the bus took too long and the service was not frequent enough, 15.1 percent and 15.9 percent, respectively.

Table 4-17
If you (or anyone in your home) does not use Battle Creek Transit, why not? (check all that apply)

Response	Number	Percent*
Prefer driving	248	52.7
Need car for work	102	21.7
Don't have enough information about Battle Creek Transit services and routes.	83	17.6
Takes too long	71	15.1
Service is not frequent enough	75	15.9
Bus does not go to where I need to go	121	25.7
Other	116	24.6

*Percent of 471 total survey responses

Respondents were asked what they thought was important in a transit system for the future. The item that was cited as very important by the most respondents was a system that serves employment locations (Table 4-18). Respondents also felt that it was very important that a transit system of the future provides access to medical and dental care providers and also provided access to shopping.

Table 4-18
Battle Creek Transit would like to build a transit system for the future. Which of the following would be important to you?

System Type	Very Important		Somewhat Important		Not Important		Total
	Number	Percent*	Number	Percent*	Number	Percent*	
A system that serves employment locations	331	81.1	38	9.3	39	9.6	408
A system that connects you to shopping	288	66.5	118	27.3	27	6.2	433
A system that gets you to school or training	221	58.0	78	20.5	82	21.5	381
A system that provides access to medical or dental care providers	316	73.5	87	20.2	27	6.3	430
A system that enables you to attend social or recreational activities	147	36.0	156	38.2	105	25.7	408

*Percent of total responses for each system type

In response to what type of service would be appropriate for Battle Creek, 65 percent thought that a regularly scheduled bus route would be an appropriate form of public transportation (Table 4-19). Forty three percent favored a curb-to-curb dial-a-ride service. This could indicate that a system comprised of a combination of service types is preferred.

Table 4-19

There are a number of ways in which transit could operate in the future. Which of the following types of service would you be most willing to use, or feel is the most appropriate for the Battle Creek area?

Response	Number	Percent*
A regularly scheduled bus route	306	65.0
A curb-to-curb dial-a-ride type van service	206	43.7
A carpool or van pool service	75	15.9
An individualized taxi trip	46	9.8
Other	39	8.3

*Percent of 471 total survey responses

In terms of typical commute destinations, Beckley Road was the most often sited destination followed by Columbia Avenue, Capital Avenue, Downtown and Fort Custer Industrial Park (Table 4-20).

Table 4-20

Of the following locations, check three that you go to the most during a typical week.

Response	Number	Percent*
Downtown	187	39.7
Beckley Road	335	71.1
Fort Custer Industrial Park	90	19.1
Capital Avenue	208	44.2
Columbia Avenue	300	63.7
Other	103	21.9

*Percent of 471 total survey responses

Of the respondents that had a daily commute, 73.5 percent had a commute of less than 20 minutes (Table 4-21). This is comparable to the U.S. Census data that indicate 68.6 percent of the Battle Creek population had a commute of less than 20 minutes.

Table 4-21

If you have a daily work or school commute, how long does it take to get to your destination?

Response	Number	Percent
Less than 10 minutes	107	32.6
10 to 19 minutes	134	40.9
20 to 29 minutes	47	14.3
30 minutes or more	40	12.2
Total	328	100.0

Given the rising cost of driving associated with increasing fuel costs, respondents were asked how expensive gas would have to be before they would consider using public transportation. At the time of the survey, the price per gallon of gas was just below four dollars per gallon. Of those surveyed, 25 percent indicated that they would consider using public transportation if gas reached four dollars per gallon (Table 4-22). Another 12.1 percent indicated they would consider using public transit at between four and five dollars per gallon. If gas continued to climb to five dollars per gallon, 11.9 percent would consider using public transportation. At more than five dollars per gallon, 25.5 percent would consider using public transportation. So, if gas were to reach a level above \$5 per gallon, 74.4 percent of those surveyed would consider using public transportation.

Table 4-22

How expensive would a gallon of gas have to be before you would consider using a public transportation service such as Battle Creek Transit?

Response	Number	Percent
\$ 4	101	25.0
more than \$4	49	12.1
\$5	48	11.9
more than \$5	103	25.5
I would not use public transit	103	25.5
Total	404	100.0

The average household size of those responding to the survey was 2.3 persons (Table 4-23). The under 18 age group made up 20.2 percent of the survey sample population compared to 27.1 percent of the Battle Creek population from the 2000 Census. The 18 to 59 years of age group made up 55.7 percent of the population in the 2000 Census and 50.8 percent of the survey sample population. In terms of senior citizens, 28.9 percent comprised the survey sample compared to 17.2 percent of the Battle Creek population during the 2000 Census.

Table 4-23

Please indicate the number of people in your household in the following age groups.

Response	Number	Percent
Under 18	212	20.2
18 to 59	532	50.8
60 and older	303	28.9
Total	1,047	100.0
Average Household Size	2.3	

In terms of household income of the survey respondents, 25.3 percent had a household income of less than \$25,000 annually, and 8.9 percent had an annual household income of more than \$100,000 (Table 4-24).

Table 4-24

Please indicate your total annual household income in 2007.

Response	Number	Percent
Less than \$25,000	102	25.3
\$25,000 to \$49,999	126	31.3
\$50,000 to \$74,999	88	21.8
\$75,000 to \$99,999	51	12.7
more than \$100,000	36	8.9
Total	403	100.0

Realizing that improvements to the system will most likely require additional funding, respondents were asked if they would support a modest increase in local taxes to fund improvements to BCT. A small majority, 51.9 percent, indicated they would support a local tax increase to fund improvements to BCT (Table 4-25).

Table 4-25

Given the need for additional funding to support improvements to Battle Creek Transit, would you support a modest increase in local taxes to fund improvements?

Response	Number	Percent
Yes	224	51.9
No	208	48.1
Total	432	100.0

Respondents were also given the opportunity to provide general comments and ideas relative to BCT and what the system should look like in the future. These can be found in Appendix A.

Stakeholder Outreach

A series of focus group meetings were held on April 22 and 23, 2008. These meetings were organized in a manner that would generate input from key stakeholder groups. Letters of invitation were sent out by BCT and public notices were also broadcast on local public access television. The following focus groups were scheduled:

- Business
- Social Services
- Senior Citizens/Persons with Disabilities
- Education
- Drivers
- Nursing Care and Retirement Facilities
- Medical
- Government
- Planning



Government Focus Group

The following summarizes the input from each meeting. Detailed focus group meeting notes, as well as documentation of all other public and stakeholder outreach, can be found in Appendix B.

Social Services Focus Group

April 22, 2008 – 10:00 a.m.

Toeller Building, Department of Human Services

Representatives from area nursing homes indicated that kidney dialysis treatments are being scheduled at 5:45 in the morning. An individual receiving treatment will be scheduled three times per week. Approximately ten patients receiving treatment are coming from nursing homes. In the near future, dialysis service may be scheduled after hours until 3:00 a.m. three days a week (Monday, Wednesday and Friday), due to the high demand for dialysis treatments. A request was made to expand the pick up and drop off window 15 minutes to provide dialysis patients more flexibility in meeting the bus and avoid having to wait for another bus to be dispatched.

Representatives from Goodwill Industries noted the 7.6 percent unemployment figure for the Battle Creek area. It was indicated that Detroit is the only city in Michigan with a higher level of unemployment than Battle Creek. After hours service is not available and cutbacks in transit service have impacted the ability to get people to jobs at the mall and Fort Custer Industrial Park. Twenty-four-hour service is desired. It was noted that approximately 1,200 new jobs will be created when the new casino, which is within the Battle Creek urbanized area, opens in 2009. Further, it was noted that hospitals are also a major employer. Most people with entry-level jobs are working the third shift for \$7.15 per hour and those people cannot afford to buy or own a car. The loss of transit service often also means the loss of a job for the individuals who are unable to find other ways to get to work.

The Work First program has its own vans and is using the vans and cabs to get people to work and childcare for up to a maximum of 180 days. Work First vans are operating 24 hours per day.

Senior Citizens/Persons with Disabilities Focus Group

April 22, 2008 – 2:00 p.m.

Battle Creek Department of Public Works (This meeting was taped.)

A variety of service needs and issues were identified including the need for service to Pennfield and Bedford Townships and the city of Springfield. It was noted that a new Wal-Mart store is planned for Pennfield Township. The hours of service, and especially service to Fort Custer, should be improved. Seniors report they can experience time delays for getting to doctors appointments, when traveling on the bus. The Lakeview Meadows senior center route was eliminated. Nighttime service with trips to the mall is desired along with extended hours for recreational programs. It was suggested that this night service might be seasonal or tied to specific recreational activities. More frequent stops and the ability to stop for a disabled person are required. It was suggested that buses be routed to travel through residential areas.

For most riders, the 24-hour reservation system works. Waiting outside for the bus in the cold of winter and the heat of the summer is the most difficult part of using the bus system for seniors and those with disabilities.

Training provided by Battle Creek Transit for the visually impaired students is good and should continue. It was noted that Jerry Hutchison does a good job. Concerns were expressed about how visually impaired riders get information about bus service and also how the bus wraps (advertising) might further hinder the limited sight of the visually impaired bus rider. A need for braille signs at the Transportation Center was identified. It was suggested that bus signs, colors and logos might be used to better let people know what buses to get on.

It was noted that there is limited service to retail stores on Beckley Road, and some of the retail establishments won't let buses stop at their locations, creating a problem for individuals with disabilities.

Representatives of CALTrans-God's Taxi were present and noted that they provide free service to individuals below the poverty level. They transport individuals to Grand Rapids and Ann Arbor and within the City of Battle Creek. Questions were raised about Battle Creek Transit being compliant with the American with Disabilities Act (ADA) requirements. It was suggested that a millage needs to be pursued along with an authority. Better coordination of service is required. There is not a coordination or consolidation plan that area residents can use to schedule service.

The need to modify bus-waiting time beyond 15 minutes at nursing homes was identified as a need. It was suggested that Battle Creek work closer with nursing homes to coordinate service and that service be shifted from one-hour headways to 30-minute headways.

Some ideas discussed at this meeting included: subsidizing after hours taxi service and the need for a different mix of vehicles, including small vans and sedans. It was noted that going to the Transportation Center to transfer to a different route is a burden for some travelers. In the past,

there were other transfer points besides the downtown Transfer Center. It was suggested that monthly transit passes be provided for individuals with low incomes. It was noted that some individuals view riding on Tele-Transit as a stigma. It was also noted that the use of bike racks on buses should continue.

Education Focus Group Meeting

April 22, 2008 – 4:00 p.m.
Battle Creek Department of Public Works Building

Kellogg Community College (KCC) students use the transit system. The timeliness of the service is an issue, especially since the last classes end at 10:00 p.m. There are areas in the county where KCC students live that are not served by transit. Parking at KCC is an issue that must be addressed. It was suggested that transit could help solve the parking problem. People in multi-family housing and those located east of KCC are in need of transit service due to the service cuts in 2006.

The Binder Park Zoo (the Zoo) supports Battle Creek Transit. The zoo provides free passes to individuals with low incomes so they can visit the zoo. However there is no transit route that services the zoo. The representative from the zoo indicated that the zoo is the largest seasonal employer in the area. The zoo is a private non-profit organization.

Lakeview School District is a separate school district, which is 14 square miles in size. School of Choice legislation has changed how the school district operates and, as a result, Lakeview School is now receiving students from Battle Creek. The School of Choice legislation does not require school busing service to be provided to students of choice. Therefore, only students with transportation are able to attend Lakeview School. A challenge is getting students home when school lets out at 2:55 p.m. Currently about 36 students are waiting on campus until the 3:50 Battle Creek Transit bus arrives. The Lakeview School would like a stop closer to the school building (not at the Meijers Store) and a bus scheduled closer to the time school lets out. It was recognized that the bus use by students will vary based upon after school activities. Jerry Hutchison reported that approximately 15 percent of the existing ridership is students.

The Burmese population in the area is expanding due to sponsorships by the church community. Battle Creek Transit does not provide non-English schedules that might be of benefit to individuals who do not read English.

Drivers Focus Group

April 22, 2008 – 7:00 p.m.
Battle Creek Transit Office

Fairlane is the cheapest apartment complex in the City of Springfield and it is not getting transit service due to previous cuts in service. Prior to the cuts, service was good. Likewise, there are a lot of areas on Michigan Avenue that are no longer being served. The location of bus stops in the M-66/Beckley Road area (near Meijers) has the buses traveling past the place where they used to stop prior to the cuts.

The drivers report that van trips are down from 700 to 300 forcing more wheelchair users on the larger buses. The drivers are spending more time securing wheel chairs on the larger buses, which impacts the schedule. Also, people are getting larger. The drivers feel they need training to deal with the bigger people and, also, training on securing of wheelchairs.

Drivers would like to stop and pick up people at Brookside when they are continuing to drive past the old stop 14 times per day. Drivers are seeing new passengers due to the increased cost of fuel. Most of the new passengers are going to Fort Custer.

Other issues/recommendations presented by the drivers included:

1. Lack of service on the south side of town after 5:15 p.m.
2. Doctors are moving south of Beckley Road. There is very little bus service to that area.
3. Transfers are not allowed except at the downtown Transportation Center and the drivers suggest changing this situation
4. The Northeast Capital route should have 30-minute headways.
5. The Michigan Avenue route should go further east.
6. KPAP (a half-way house for prisoners) wants the drivers to sign-off for late arrivals. The drivers object.
7. Drivers would like the Main-Post route adjusted at allow them to use one of the downtown bridges to avoid road construction.

Nursing Care and Retirement Facilities Focus Group

April 23, 2008 – 9:00 a.m.

Marian Burch Adult Day Care & Rehabilitation Center

The Laurel gets 90 percent of their clients from services scheduled through Battle Creek Transit. The 15-minute rule is a problem. (The 15-minute rule means a bus can pick up a person up to 15 minutes before or up to 15 minutes after their designated pick up time. This 15/30-minute window is due to the scheduling software and is impacted by the location of the bus prior to the designated pick up. Appointments start at 9:00 a.m. and there are 117 residents at the facility. Approximately ten trips per day are scheduled, most for kidney dialysis treatments. "Life Care" is utilized for trips Battle Creek Transit cannot provide. Due to scheduling, a person can experience a long wait for a bus after dialysis treatment.

The Marian Burch facility has nine buses that sit idle during the day. It was suggested that there may be an opportunity for the Marian Burch facility and Battle Creek Transit to share this vehicle resource during the idle time, perhaps under a pilot program. The Marian Burch buses provide service over the entire county. They pick up about 90 percent of their clients and bring them to the center Monday through Friday. Pick up starts at 7:30 and at 3:30 they start drop off service. Approximately 50 people are transported per day on six of the nine buses.

Bedford Manor is a facility for individuals 62 and older with low incomes. They schedule medical and group trips through Battle Creek Transit. There is not enough transportation for seniors and elderly. The cost of fuel is driving seniors to use transit. Seniors prefer the vans because they don't have to transfer and the vans can go to Wal-Mart while the large buses do not.

Medical Focus Group

April 23, 2008 – 11:00 a.m.
Southwest Regional Rehabilitation Center

Southwest Regional Rehabilitation Center (SWRRC) has 26 beds. Physical therapist candidates, who do not drive, work at SWRRC. These individuals are limited to where they can live due to the lack of transit. Their work hours are from 9 a.m. to 5 p.m. An individual wishing to live or go south cannot use transit because the last bus from the downtown Transportation Center heading south on Beckley Road leaves the center at 4:45 p.m. The SWRRC has four vans that pick up passengers in the City of Battle Creek and in Marshall and Albion. They operate the vans to meet the schedules of the physical therapist and other staff needs. If the vans are not on time it can impact a physical therapist's and clients' schedules for the rest of the day. Battle Creek Transit does not provide regular route service to this facility. SWRRC officials were not aware of the Tele-Transit service.

Life Care Ambulance provides wheelchair services beyond the Tele-Transit service, as well as regular ambulance service. They provide wheelchair service county-wide and outside of the county. They have four wheelchair vans that operate 7 a.m. to 8 p.m. Monday through Friday and one van is used for Saturday service. Their representative indicated that they are always looking for ways to coordinate service.

The inability to transfer except at the downtown Transportation Center is a problem for many people. According to Jerry Hutchinson 39 percent of the trips on the existing system are transfers.

Government Focus Group

April 23, 2008 – 2:30 p.m.
Springfield City Hall

The MDOT representative indicated that transit is needed more than ever.

There has not been great deal of concern expressed over the transit cuts that took place except for the Michigan Avenue route. Tele-Transit is in demand. Emmett Township does not have high-density zoning and the home prices in this township are in the \$250,000 range. The folks living in Emmett Township don't ride transit.

The Battle Creek Commissioner indicated that using the hub and spoke system takes too long so he does not use the bus. Also the bus system can impact your life style, such as limiting your opportunity to go home for lunch.

Low income and elderly are seen as the focus of the transit system. Marketing is required to inform people about the service. The key areas that need service are the high-density areas. Pennfield had limited service before the cuts. The service does not serve the residents in the township.

The City Commissioner indicated that he is open to sending buses out into the townships to medical facilities, but not an extensive service.

Springfield did not view the cuts as a big loss to Springfield because most of the riders were going to Battle Creek.

It was suggested that buses be focused on employment trips in the morning hours and be used during the off hours for shopping, etc.

5. Needs Assessment

BCT provides a solid, efficient service to much of the community. This service is generally oriented to and used by those without the access, ability, or level of income needed to drive. From a standpoint of need, based on the data gathered during the surveys the greatest needs are for service later in the evening and to a number of locations that were previously served by BCT before service was cut to some of the townships and the City of Springfield.

Work Trip Needs

Based on the surveys, personal interviews with riders, and discussions with drivers, the existing needs will continue to grow. People working second and third shifts at the Fort Custer Industrial Park currently face significant challenges in getting to and from work. This is particularly concerning in light of the fact that in some cases being late or missing work even once results in loss of the job. BCT does provide service through its Tele-Trans for some of these trips but not enough to meet the demand. Similarly, people working in the restaurant and service industry face transportation challenges after BCT stops operation as many work until 9:00 p.m. or later.

Needs of Seniors and People with Disabilities

BCT is a lifeline for many of Battle Creek's seniors and people with disabilities. This is a need that will continue to grow and will affect BCT's ability to continue to provide a comprehensive service because transporting those who cannot use the regular bus system is very expensive. As these trips rise, there will be additional pressure on the system budget which could lead to even greater cutbacks in service.

General Transportation Needs

BCT is important to many people for conducting day-to-day activity including shopping, recreational and medical. Some people use the bus because they are limited by income or do not have a driver's license, etc. The need for these services will certainly continue, if not grow, given the economic challenges of today.

Needs of "Choice" Riders

The rapidly escalating price of gasoline may change the demographic profile of the typical BCT rider and open up additional areas of need to those who formerly would not use transit because they had ready and affordable access to an automobile. Although there are no real traffic problems in Battle Creek and most people have a relatively short commute, there may well be demand for more work/commute trips. This may open the door for future discussions with the

townships, which have been reluctant to provide funding for BCT service. The general public survey indicated that if gas reached \$5.00 per gallon, 75 percent of the respondents said they would consider using transit. Clearly this usage may go beyond work trips if convenient access to shopping and recreational activities was available.

6. Operational Analysis

The existing BCT routes were analyzed in terms of their productivity. Typically, route productivity analysis involves comparing the passengers per hour of each individual route with the average passengers per hour of the system as a whole. Routes performing at or above 80 percent of the system average are considered acceptable. Routes performing below 80 percent, but greater than 50 percent of the system average, should be reviewed. Routes with passengers per hour of less than 50 percent of the system average are candidates for elimination or replacement by another type of service.

Battle Creek Transit is unique in the fact that six of the eight routes operate at a level above 80 percent of the system average passengers per hour (Table 6-1). Routes operating at a less productive level are Routes 1W West Michigan and 5W Fort Custer. Still, both of these routes operate above 50 percent of the system average passengers per hour.

Table 6-1
Passengers Per Revenue Hour

Route	Avg. Weekday Ridership ¹	Weekday Revenue Hours ²	Passengers Per Hour
1W/West Michigan	193	13.0	14.8
2E/Emmett-East Ave.	178	7.0	25.4
2W/Columbia-Territorial	323	13.0	24.8
3E/Main-Post	428	13.5	31.7
3W/Kendall-Goodale	408	13.5	30.2
4S/SW Capital	276	13.0	21.2
4N/NE Capital	234	6.5	36.0
5W/Fort Custer	311	18.0	17.3
System	2,351	97.5	24.1

¹ An average of daily ridership on December 4, 2007 and February 5, 2008.

² As of December 12, 2007.

Source: The Corradino Group, Inc. with data provided by BCT.

The most productive route in terms of passengers per hour is Route 4N NE Capital as it carries 36 passengers per hour. Routes 3E Main-Post and 3W Kendall-Goodale both carry in excess of 30 passengers per hour. Routes 2E Emmett-East Avenue, 2W Columbia-Territorial and 4S SW Capital all carry between 21 and 25 passengers per hour.

Boarding and Alighting Activity

Battle Creek Transit staff collected boarding and alighting activity for two days, one in December 2007 and one in February 2008. These data were combined to generate an average profile of boarding and alighting activity for an average weekday. These data were attached to geocoded bus stops that were provided by the City's GIS department. Maps were then generated that profile boarding and alighting activity for each route.

The graphics of boarding and alighting activity can be used to show route productivity and to illustrate the productivity of specific segments of routes. Evident in the graphics is the main boarding and alighting point for each route, the downtown transportation center.

Route 1W West Michigan

As shown in Figures 6-1A and 6-1B, the boardings and alightings are distributed somewhat evenly along the West Michigan Avenue portion of the route. There is a small area of concentrated boardings west of Bedford Street around the Urbandale Plaza Shopping Center. There is no boarding activity along Morgan Road until the bus reaches the Rolling Hills Village manufactured home community. The boardings and alightings in Rolling Hills are distributed among four bus stops and accounted for about six daily boardings on the weekdays surveyed.

Route 2E Emmett East

Figures 6-2A and 6-2B are profiles of the boarding and alighting activity for Route 2E. As with all of the other routes in the system, the most common boarding and alighting location is the downtown transportation center. Key stops along the route include Battle Creek Health System, Kellogg Community College and Calhoun Area Technology Center. Significant boarding and alighting activity can be observed along North Street at Calhoun and at the stops at and near Battle Creek Health System and Kellogg Community College. There is very little activity at the stops along McKinley Avenue and Garrison Road. Boarding and alighting activity picks up at Eaton Street and East Avenue.

Route 2W Columbia-Territorial

Route 2W major destinations include the Salvation Army, retail at Columbia Plaza and the Meijer store. Ridership activity is generally distributed across the route with the exception of the loop formed by Territorial Road, 20th Street, Goguac Street and 31st Street (Figures 6-3A and 6-3B). Little boarding and alighting activity is generated on the loop with the exception of the area near the intersection of 20th Street and Territorial Road.

Route 3E Main-Post

Figures 6-4A and 6-4B are profiles of the boarding and alighting activity for Route 3E. Major destinations along the route include the Franklin School, Main Street Market, the Post School, and the Post manufacturing facility. Boarding and alighting activity is distributed throughout the route with nearly every stop being utilized.

Route 3W Kendall-Goodale

Route 3W is comprised of three loops, all of which perform well (Figure 6-5A and 6-5B). Characteristics that help the performance of Route 3W are several multi-family complexes along the route, the Federal Building, medical facilities and the Washington School.

Route 4N NE Capital

Figures 6-6A and 6-6B detail the boarding and alighting activity of Route 4N. The route makes a limited number of trips, five per weekday, to the Felpausch store. On the trips that do not extend all the way out to Felpausch, the route goes to Roosevelt and Capital and then returns to downtown. Generally, the ridership is distributed along the route, but the area north of Emmett Street along Capital Avenue is less productive. In this area, there is more distance between stops and no major destination until you get to Felpausch.

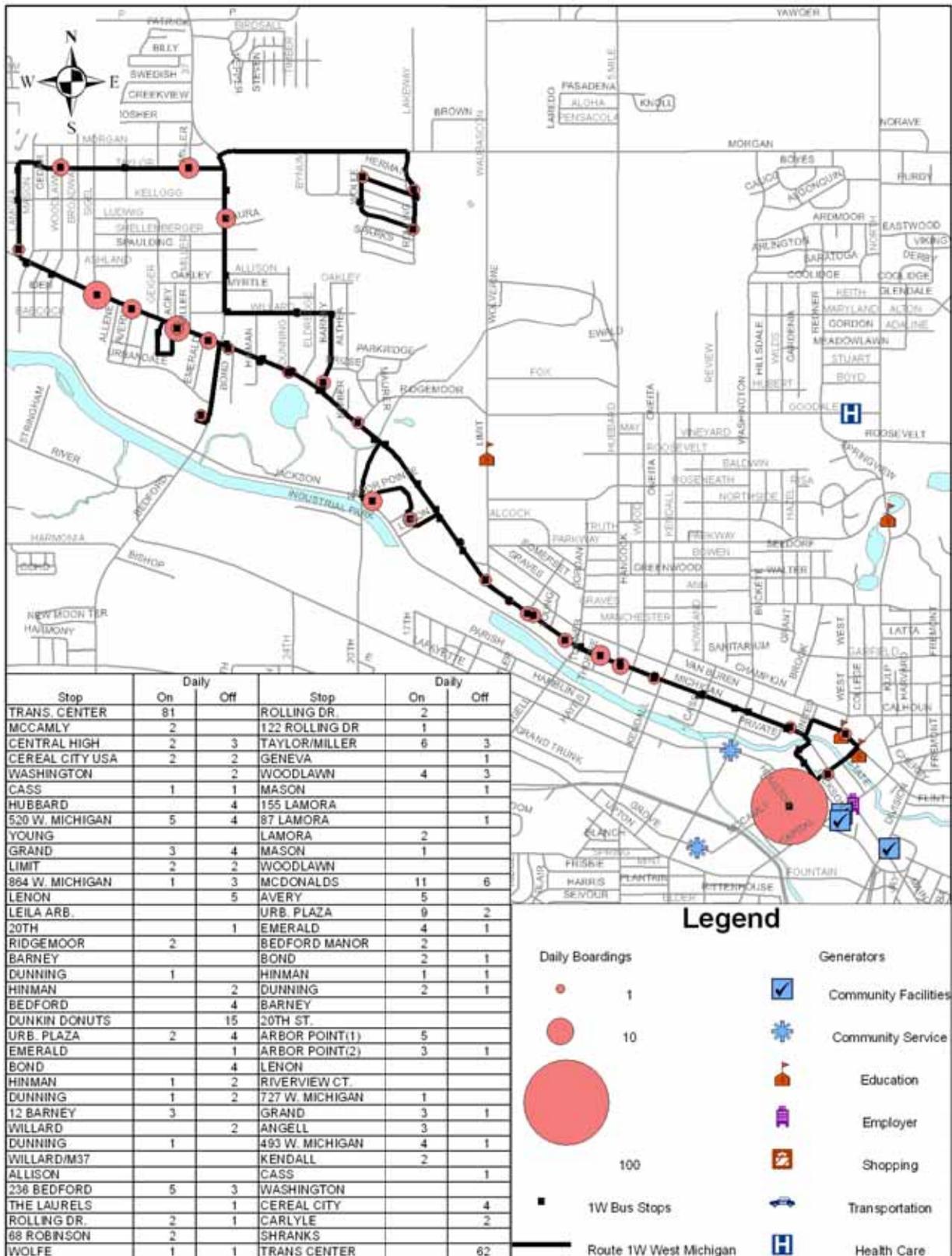
4S SW Capital

Route 4S travels along SW Capital Avenue and down to the Beckley Road area. Key destinations along the route include multiple apartment complexes such as The Arbors and Landings. There are several shopping destinations including Lakeview Square Mall, Minges Brook Mall, Meijer and Felpausch. As shown in Figures 6-7A and 6-7B, the boarding and alighting activity are focused at the two ends of the route. There is considerably less activity in the middle portion of the route between Columbia Avenue and Minges Road.

5W Fort Custer

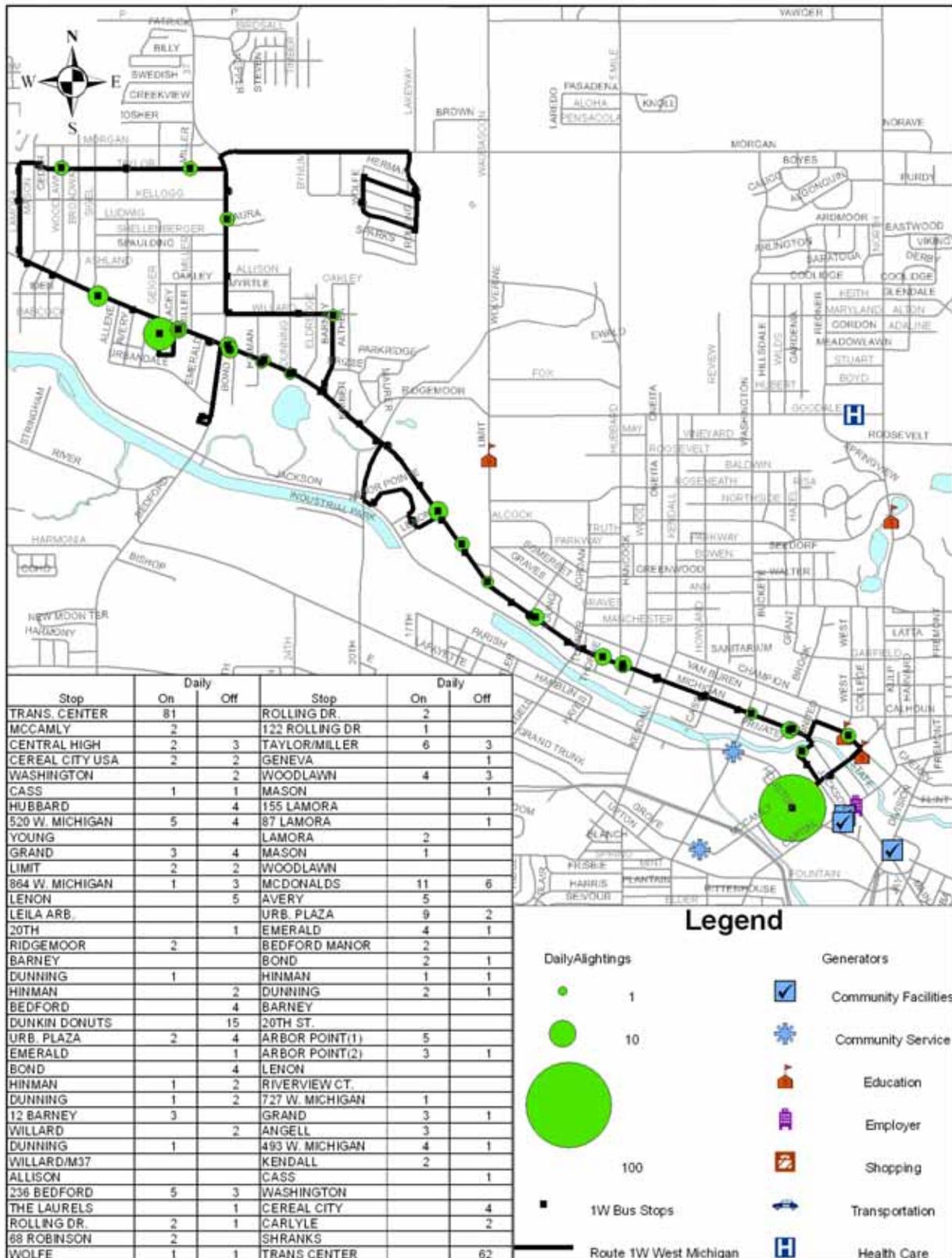
Route 5W is a relatively long route. The main purpose of Route 5W is to serve the Fort Custer Industrial Park and the VA Hospital. There are no stops in the middle of the route (Figures 6-8A and 6-8B) in the City of Springfield due to funding issues. The boarding and alighting activity is concentrated in Fort Custer with the majority of the boarding and alighting activity taking place at the VA Hospital. Another key boarding and alighting activity location is the area in and around the Liberty Commons apartment complex.

Figure 6-1A
Route 1W Boardings



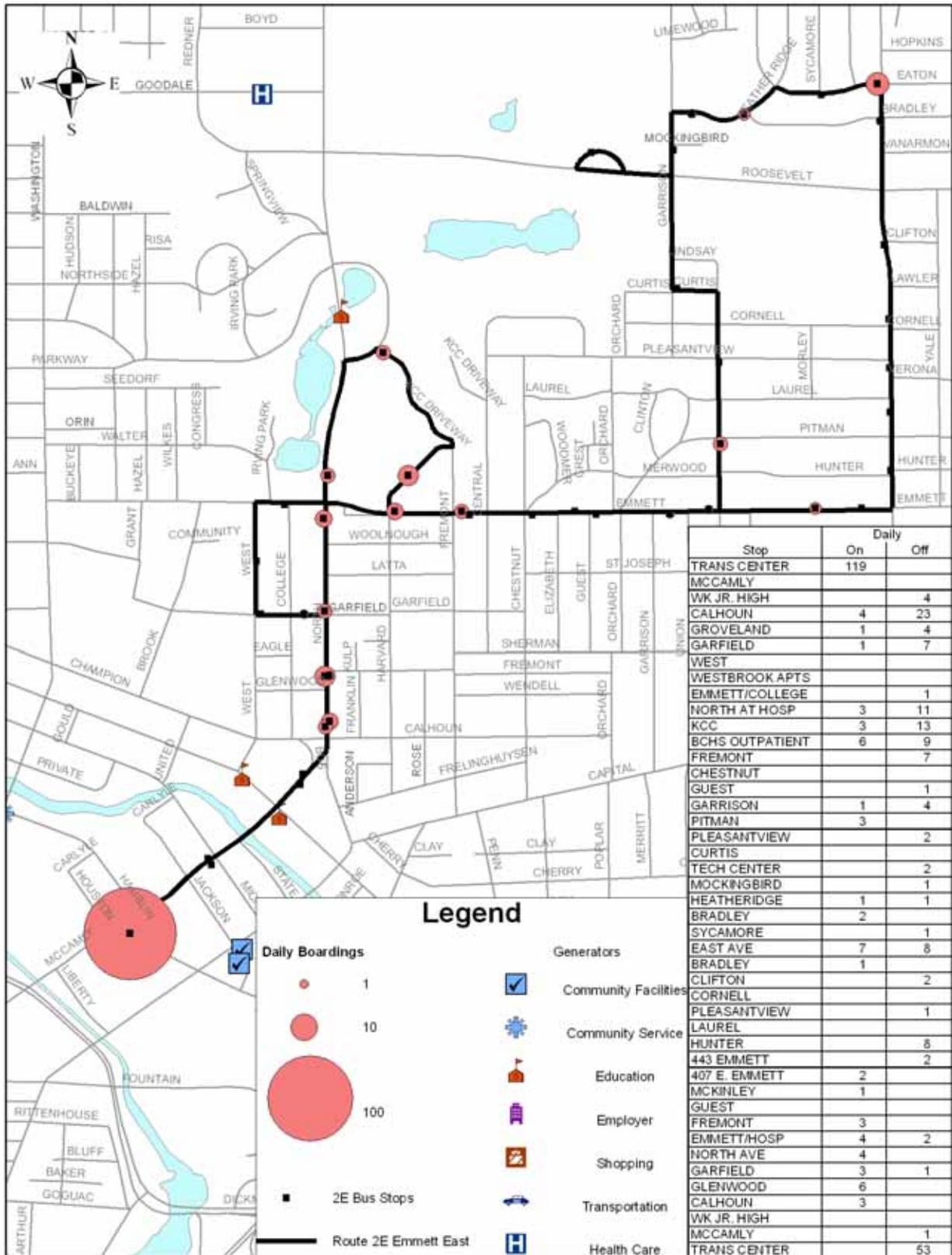
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-1B
Route 1W Alightings



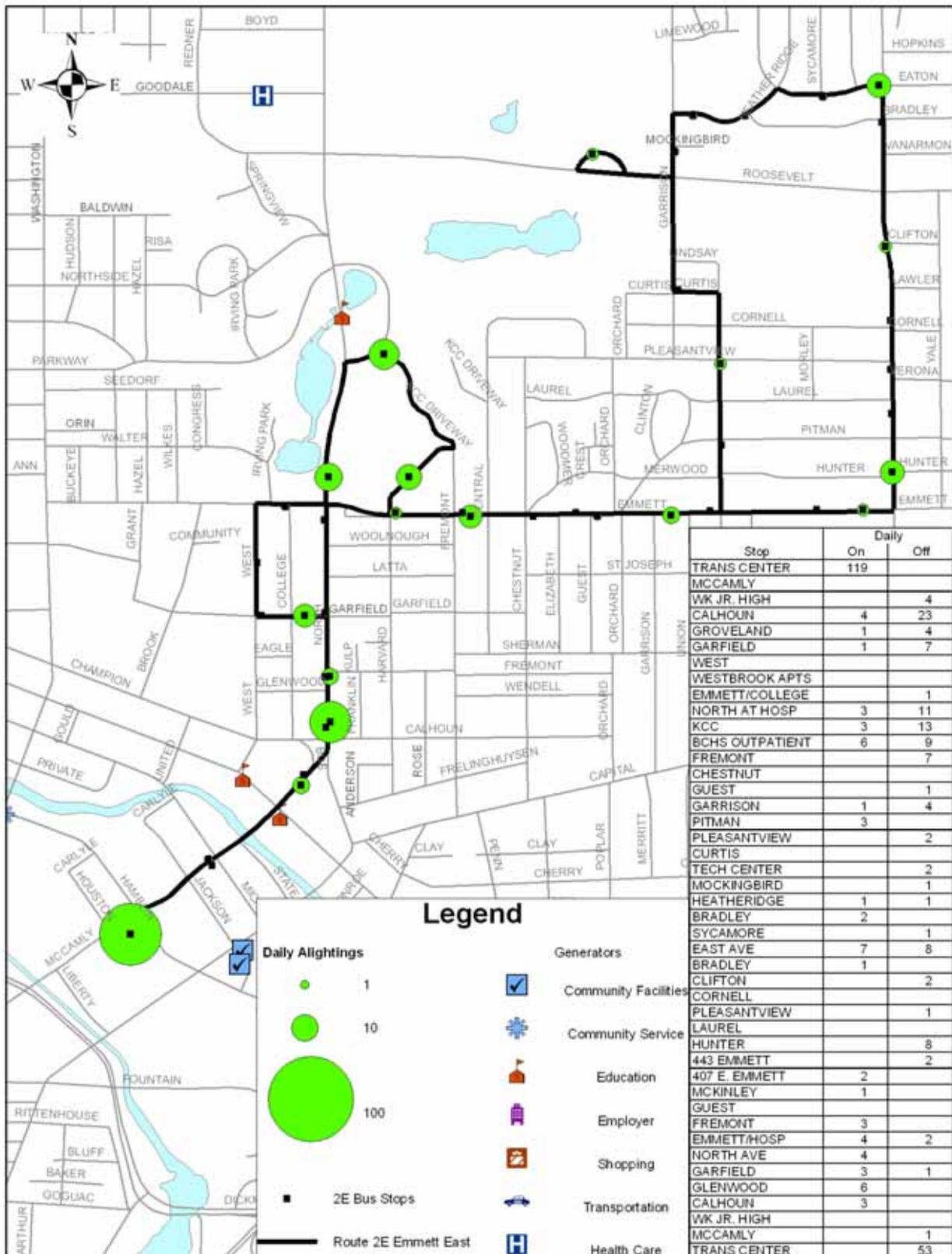
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-2A
Route 2E Boardings



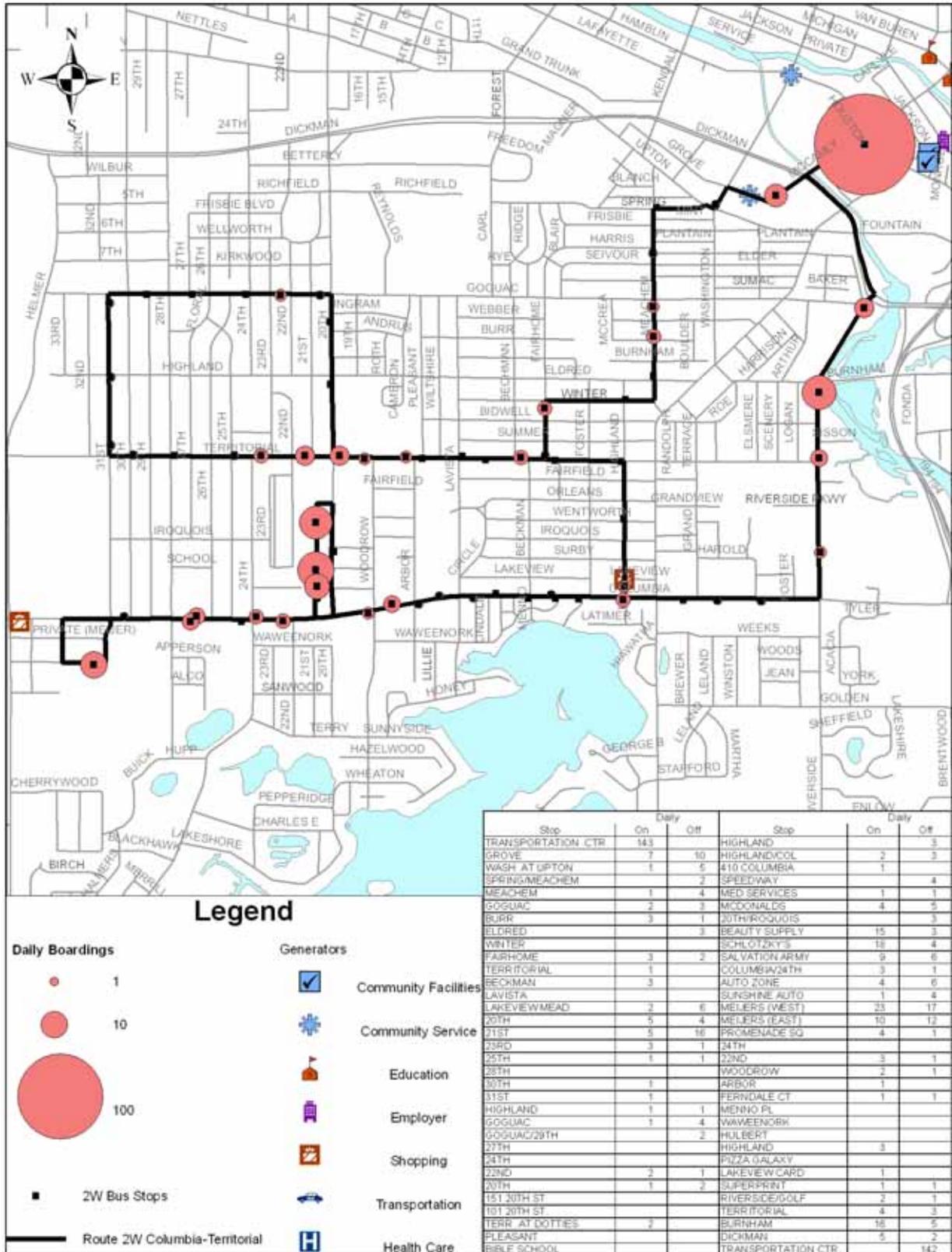
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-2B
Route 2E Alightings



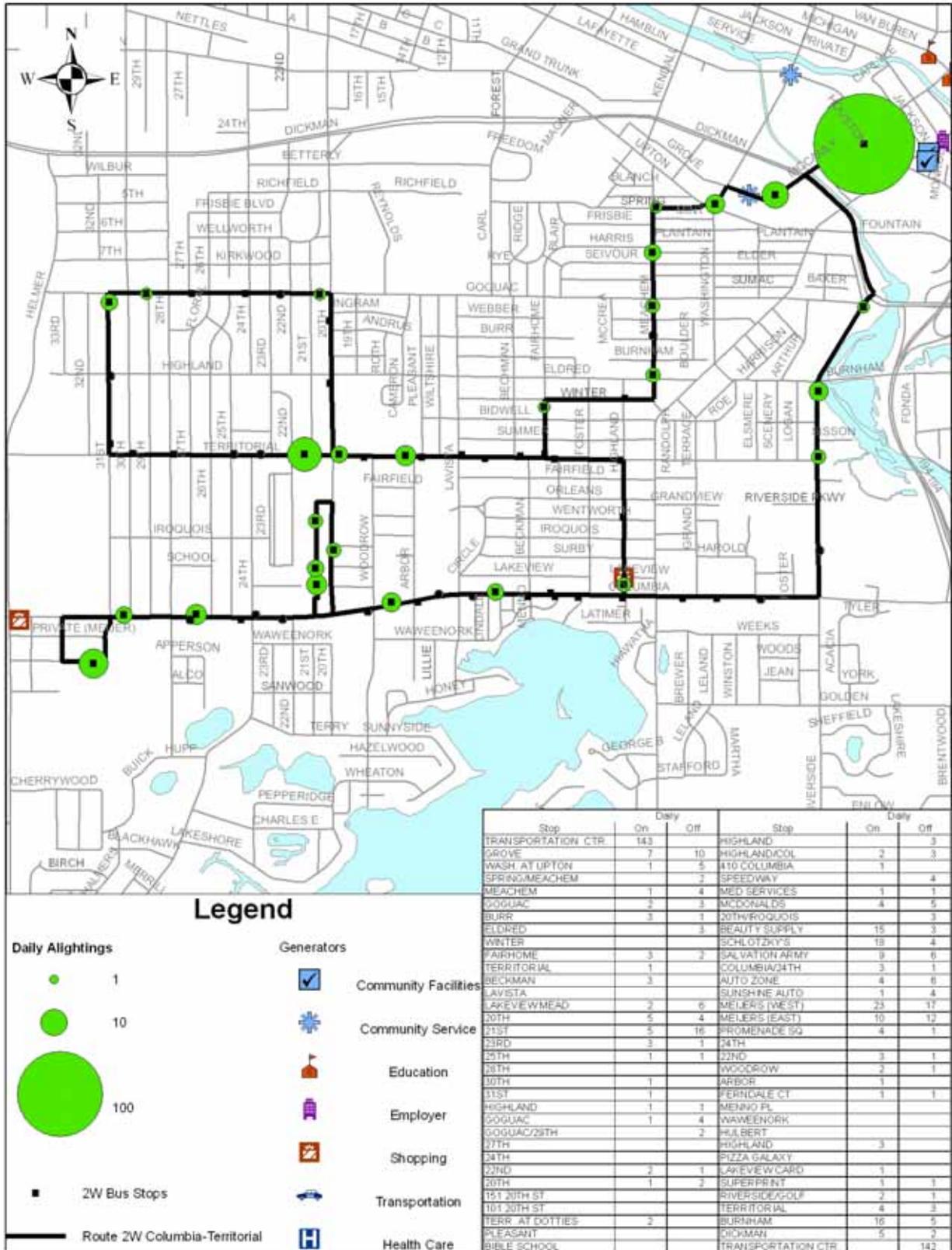
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-3A
Route 2W Boardings



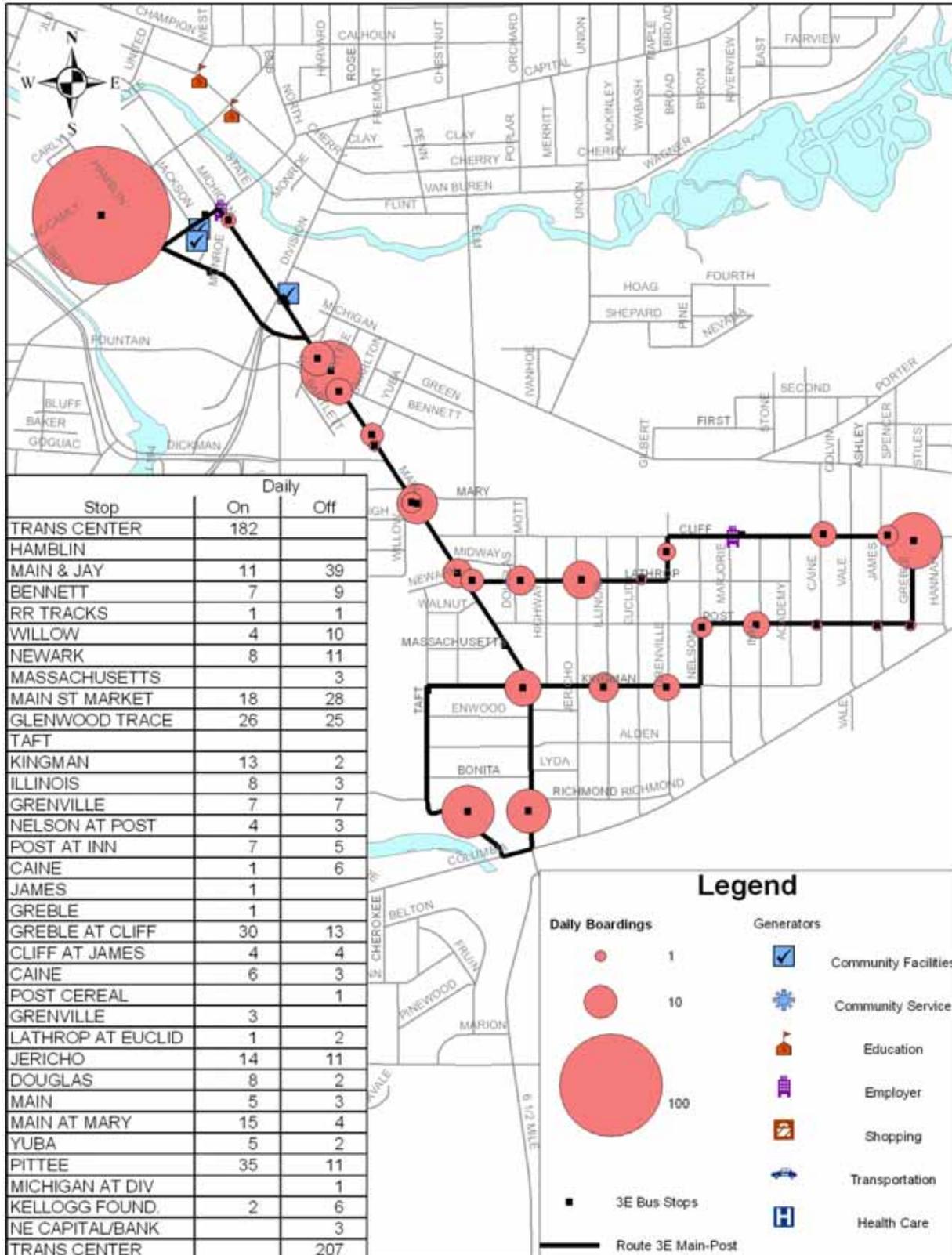
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-3B
Route 2W Alightings



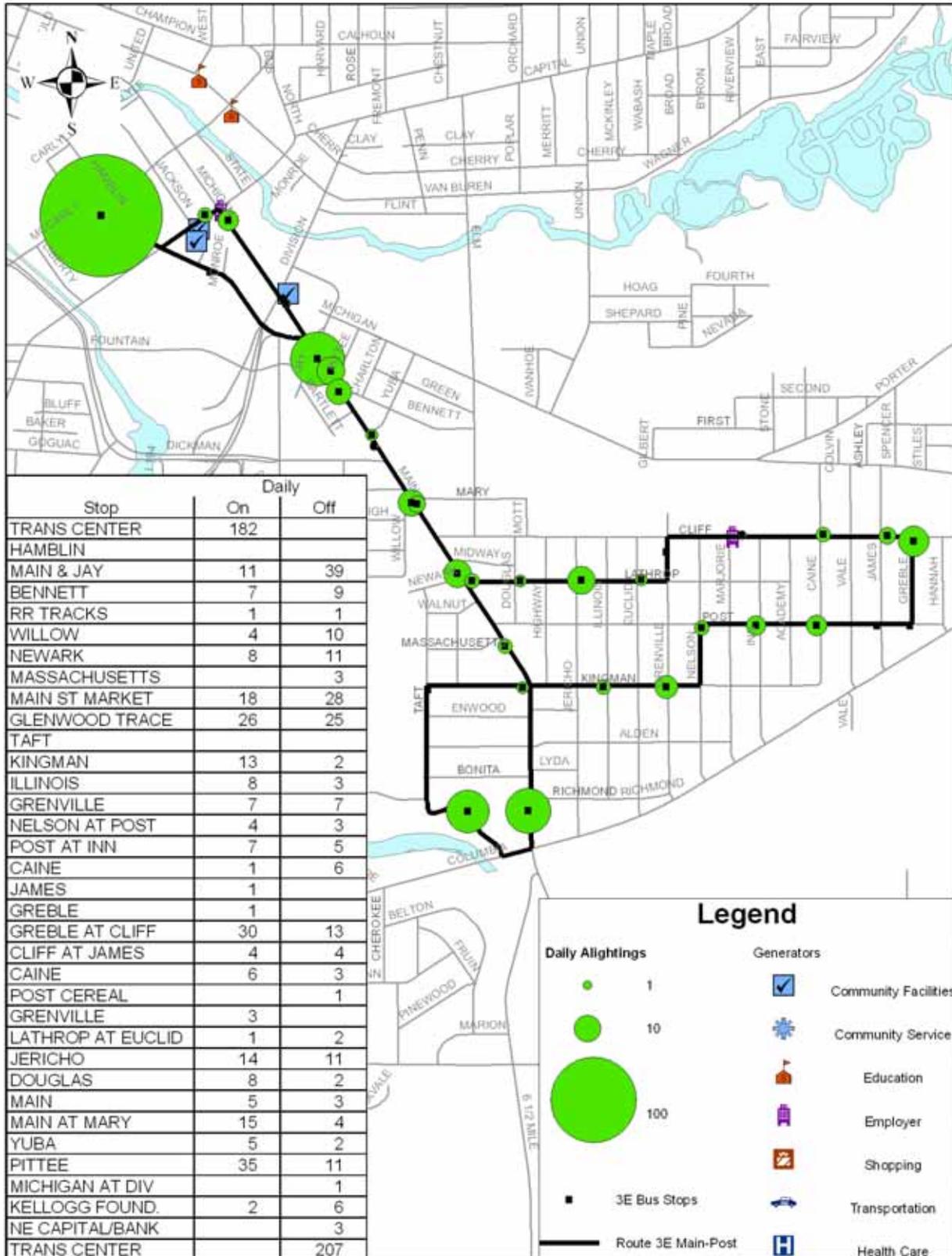
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-4A
Route 3E Boardings



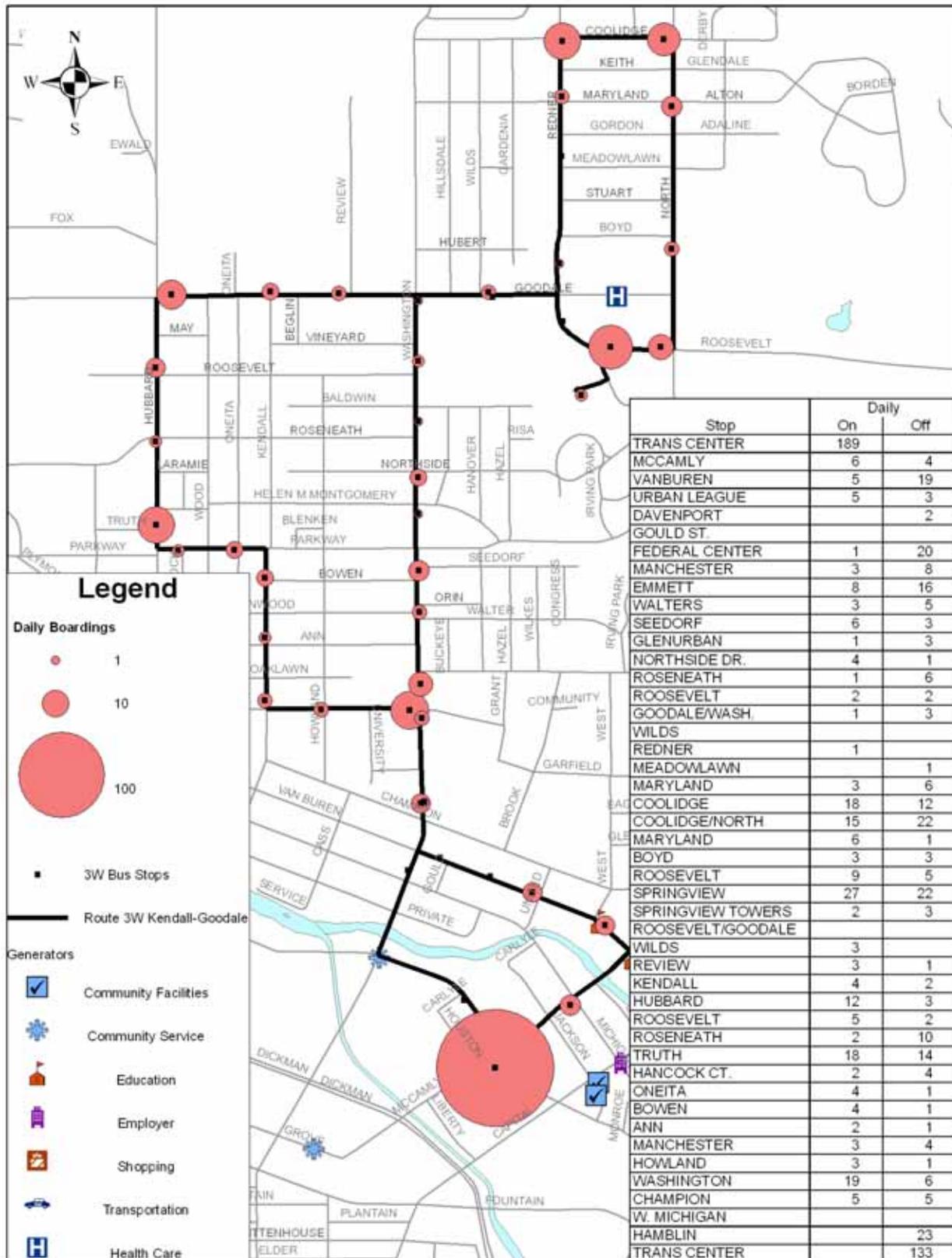
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-4B
Route 3E Alightings



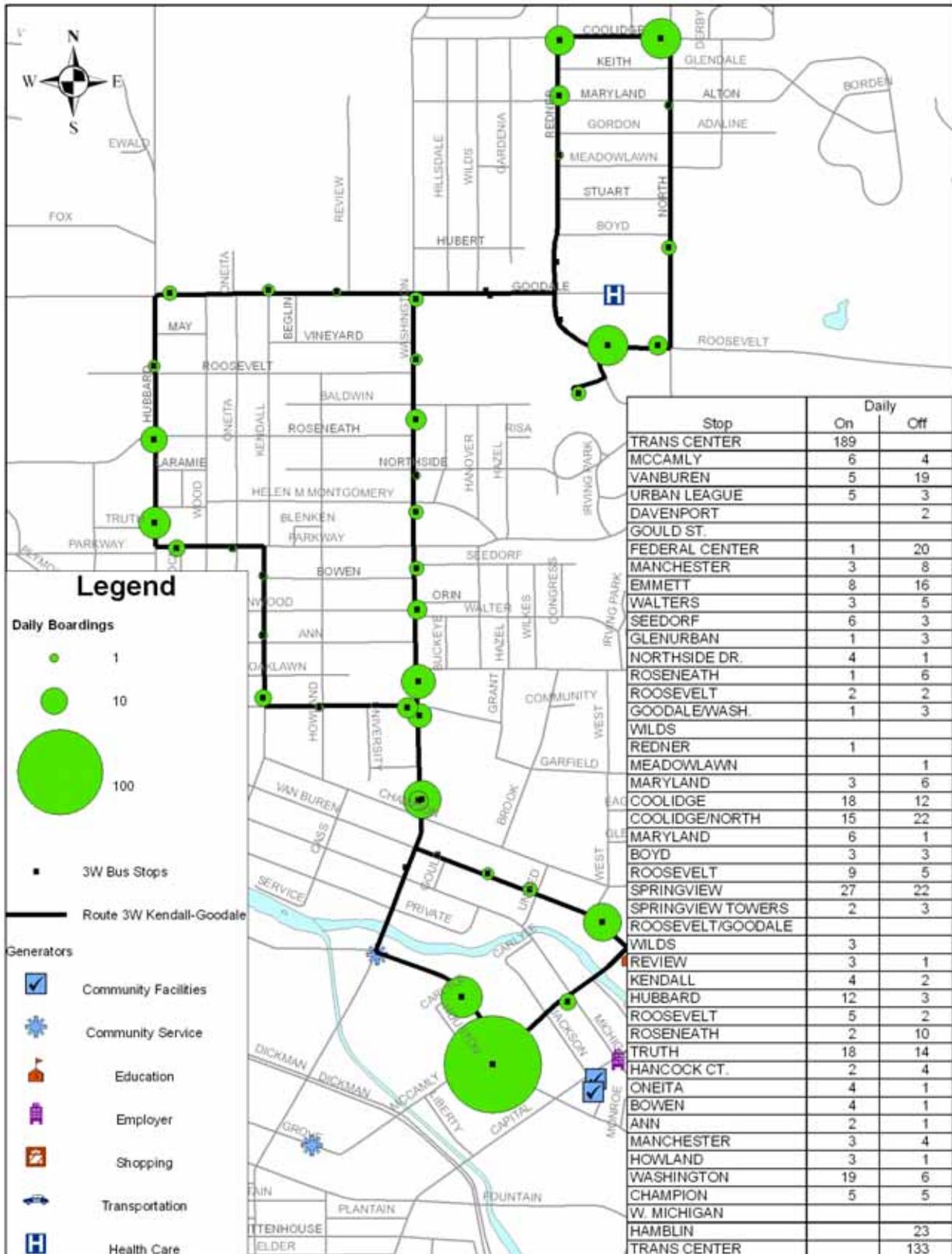
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-5A
Route 3W Boardings



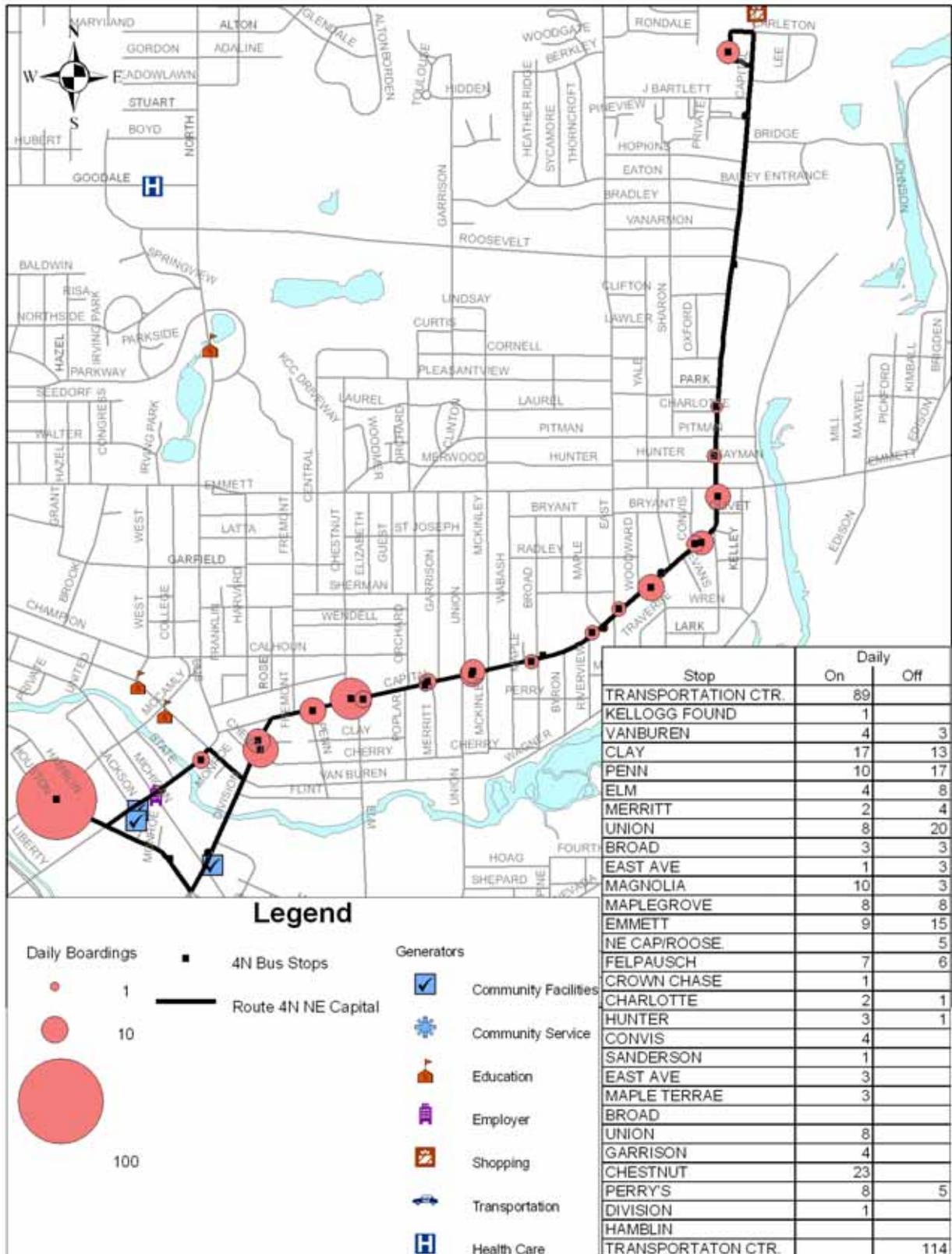
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-5B
Route 3W Alightings



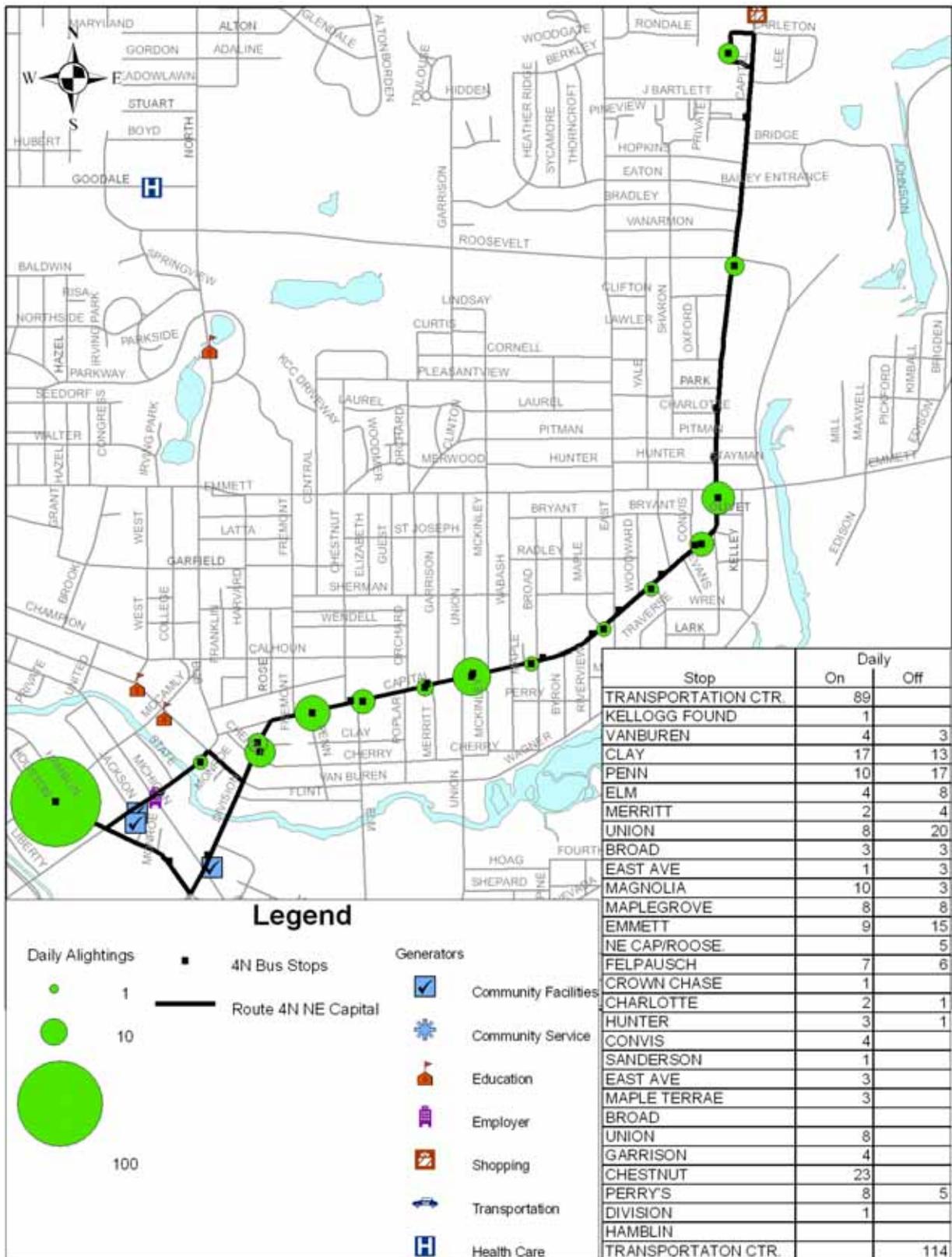
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-6A
Route 4N Boardings



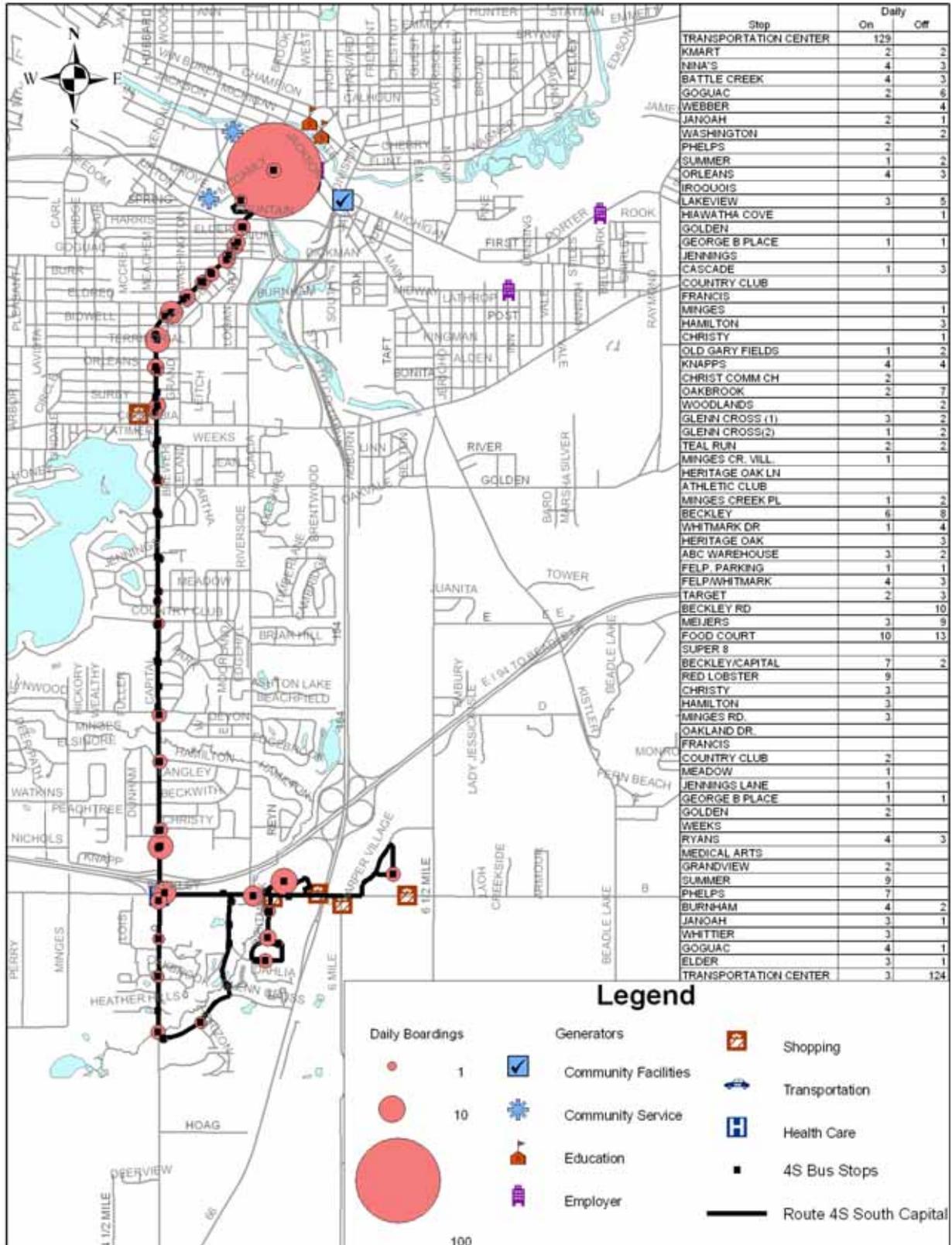
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-6B
Route 4N Alightings



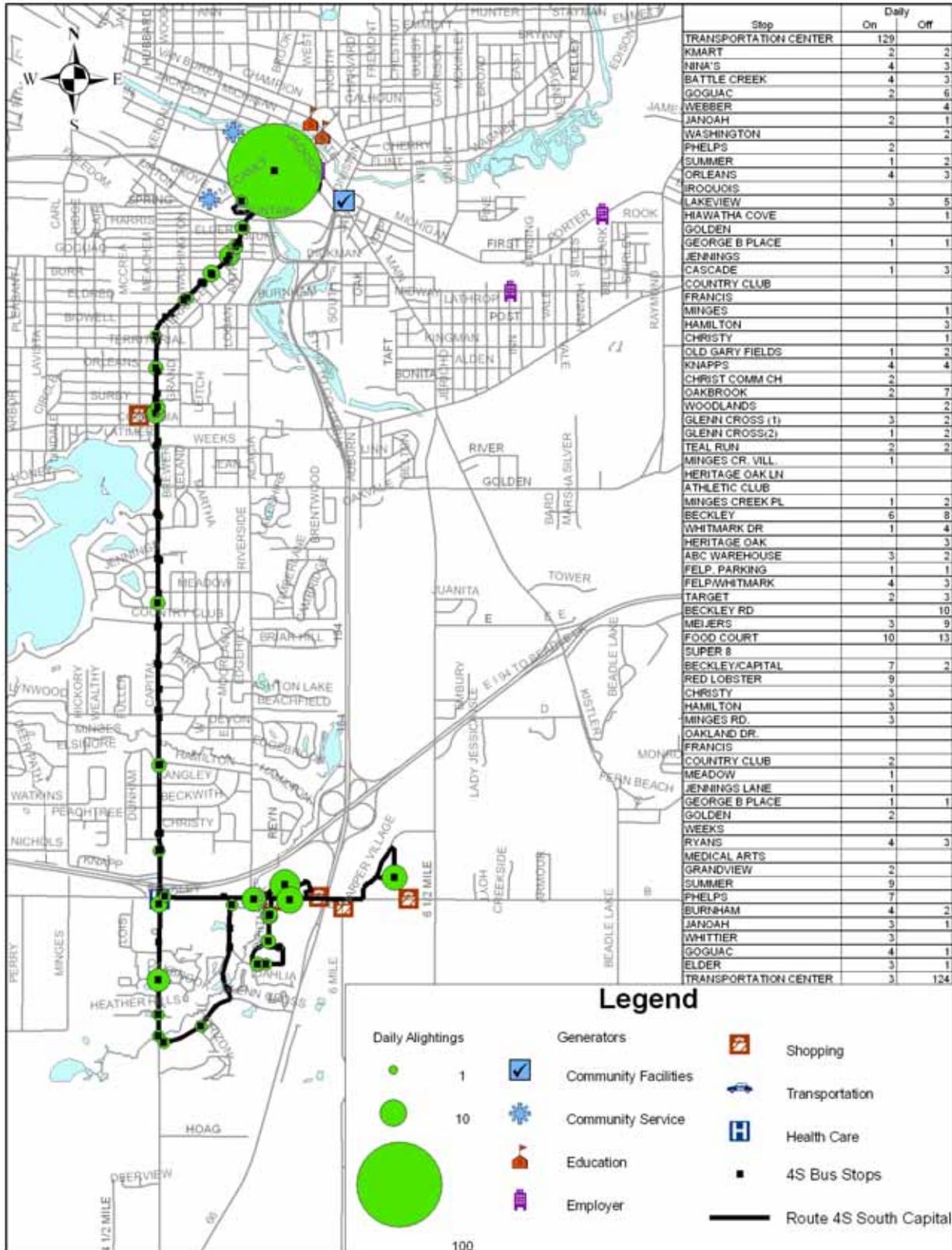
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-7A
Route 4S Boardings



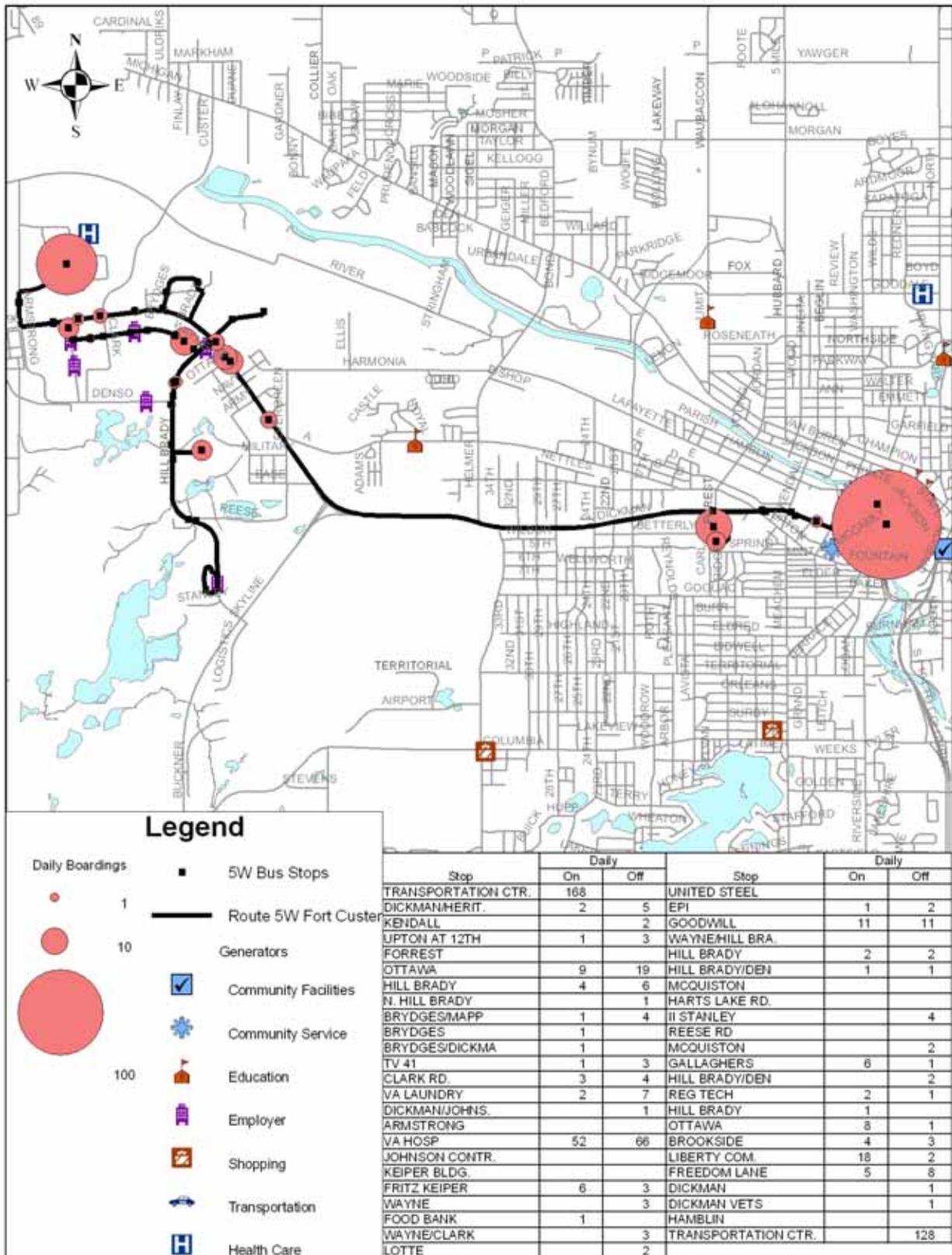
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-7B
Route 4S Alightings



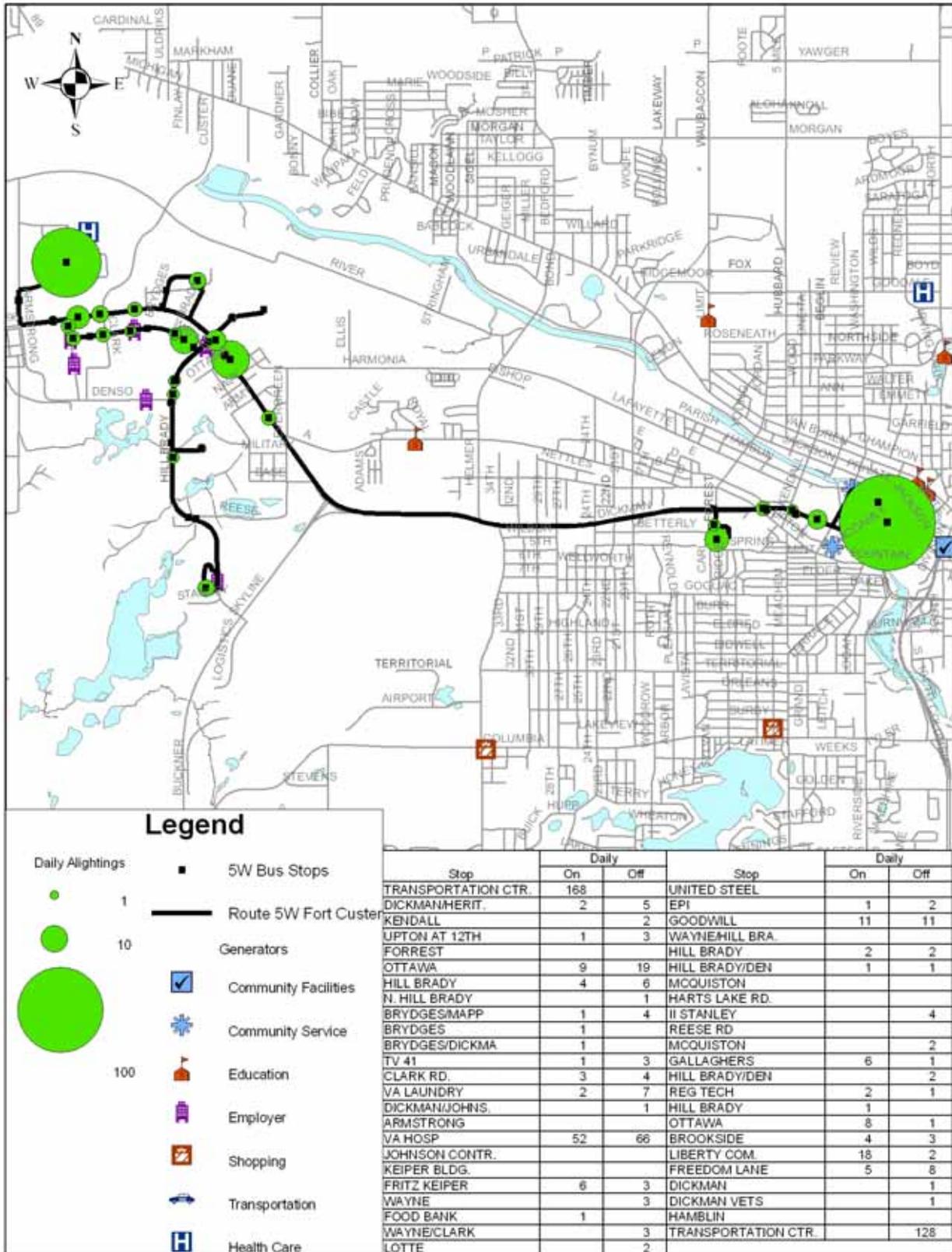
Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-8A
Route 5W Boardings



Source: The Corradino Group, Inc. with data provided by BCT.

Figure 6-8B
Route 5W Alightings



Source: The Corradino Group, Inc. with data provided by BCT.

Transfer Analysis

Transfers were collected for two weekdays and one Saturday. A high rate of transfer activity generally leads to longer trip times for passengers.

Table 6-2 shows the daily transfer activity among BCT routes. It is estimated that 34 to 38 percent of all weekday trips require a transfer. Routes 3E Main-Post, 3W Kendall Goodale, 4S SW Capital and 5W Fort Custer all have approximately 100 or more passengers transferring to them on an average weekday. Route 2E Emmett East had over twice as many transfers from it on a Thursday than it did on a Wednesday. Route 4N NE Capital had only a third of the transfers on a Thursday that it had on a Wednesday. This could be attributed to school schedules or other community activities that are day-of-the-week specific.

The data generally show a high level of transfer activity between:

- Route 2E East-Emmett and 4S SW Capital;
- Route 2W Columbia-Territorial and 3W Kendall-Goodale;
- Route 3E and 3W Kendall-Goodale, 4N NE Capital and 4S SW Capital;
- Route 3W Kendall-Goodale and 5W Fort Custer;
- Route 4N NE Capital and 5W Fort Custer; and,
- Route 5W Fort Custer and 2E Emmett-East Avenue and 3E Main-Post.

One would expect a large number of transfers to and from Route 4S SW Capital given it serves Lakeview Square Mall and a concentration of retail activity in the Beckley Road area, but a minimal amount of residential neighborhoods. The same is true of Route 5W Fort Custer. It serves the VA Hospital and the major employers in the industrial park, but does not access much residential development.

Table 6-2
Daily Transfer Activity Among BCT Routes

Weekday Transfer Activity: Wednesday, March 12, 2008

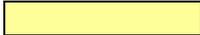
To	Route	From								Total Transfers
		1W	2E	2W	3E	3W	4N	4S	5W	
	1W	0	4	12	8	10	11	12	13	70
	2E	10	0	9	11	9	1	14	20	74
	2W	8	2	1	7	11	13	10	16	68
	3E	10	8	15	0	26	18	15	28	120
	3W	7	7	9	24	7	19	21	23	117
	4N	2	0	3	21	7	0	12	13	58
	4S	13	5	12	21	18	18	2	16	105
	5W	8	9	8	15	29	21	11	0	101
	Total Transfers	58	35	69	107	117	101	97	129	713
Total Boardings									1,876	
Trips Requiring a Transfer									38%	

Weekday Transfer Activity: Thursday, March 13, 2008

To	Route	From								Total Transfers
		1W	2E	2W	3E	3W	4N	4S	5W	
	1W	0	8	5	3	8	1	12	6	43
	2E	2	2	19	17	11	0	12	18	81
	2W	4	12	1	15	15	4	11	15	77
	3E	9	10	17	0	19	8	30	21	114
	3W	7	13	20	22	9	5	24	26	126
	4N	2	1	1	11	11	0	8	7	41
	4S	6	24	11	16	31	6	0	7	101
	5W	6	19	11	21	30	4	6	1	98
	Total Transfers	36	89	85	105	134	28	103	101	681
Total Boardings									2,000	
Trips Requiring a Transfer									34%	

Saturday Transfer Activity: Saturday, March 15, 2008

To	Route	From								Total Transfers
		1W	2E	2W	3E	3W	4N	4S	5W	
	1W	0	0	4	4	0	6	5	1	20
	2E	1	0	12	1	3	4	4	1	26
	2W	3	1	1	3	9	10	8	2	37
	3E	0	0	8	0	0	4	8	4	24
	3W	2	3	6	0	0	4	2	1	18
	4N	1	0	4	4	8	1	6	2	26
	4S	3	1	6	6	12	14	0	6	48
	5W	3	0	2	0	1	0	9	0	15
	Total Transfers	13	5	43	18	33	43	42	17	214
Total Boardings									672	
Trips Requiring a Transfer									32%	

 10 to 19 daily transfers
 20 or more daily transfers

Source: The Corradino Group, Inc. with data provided by BCT.

Financial Analysis

Battle Creek Transit's 2007 operating budget was just over \$3.5 million (Table 6-3). Of this amount, \$2.6 million was used to operate the system's eight fixed routes with the remaining \$926,000 used to operate the TeleTransit demand response service. The system's annual operating costs have increased with inflation. On average, between 2003 and 2007, annual operating expenses increased by 1.7 percent.

Table 6-3
Operating Expenses

	2003	2004	2005	2006	2007
Fixed Route	\$2,242,305	\$2,453,019	\$2,481,804	\$2,578,862	\$2,586,043
Demand Response	1,038,965	918,756	916,906	858,782	926,260
Total	\$3,283,273	\$3,373,779	\$3,400,715	\$3,439,650	\$3,514,310

Source: National Transit Database.

BCT's operating revenue is derived from five main sources. These include fare box and contract revenues, local funding from the City of Battle Creek, state funding through Michigan Department of Transportation, federal funding through the Federal Transit Administration, and other sources such as advertising. Table 6-4 details BCT revenue sources from 2003 through 2007. As shown, the state is the largest source of revenue, typically providing between 41 and 46 percent of operating funds. Federal funds account for 23 to 27 percent of the annual revenues. Fare box revenues currently comprise approximately eight percent of total revenues with the City of Battle Creek contributing the remaining 20 percent of operating funds.

Table 6-4
Operating Revenue Sources

Source	2003		2004		2005		2006		2007	
Fares	\$318,114	9%	\$305,751	10%	\$325,922	10%	\$290,395	8%	\$294,639	8%
Local	626,490	13%	596,188	19%	793,128	24%	895,607	26%	898,857	26%
State	1,488,649	43%	1,454,777	46%	1,401,308	42%	1,448,425	42%	1,425,425	41%
Federal	937,476	27%	758,928	24%	775,197	23%	787,265	23%	819,659	23%
Other	66,722	2%	63,911	2%	26,581	1%	21,580	1%	65,176	2%
Total	\$3,437,451	100%	\$3,179,555	100%	\$3,322,136	100%	\$3,443,272	100%	\$3,503,756	100%

Source: National Transit Database.

Peer Review

The data utilized for the peer review was primarily obtained from the Michigan Department of Transportation (MDOT) and the National Transit Database. The peer review information below reflects operating conditions at a specific point in time and the information is subject to change when local operating conditions and services change. The information should be used as a general guide to gauge how Battle Creek Transit measures up against similar public transit systems operating within urban areas in Michigan.

Battle Creek Transit is one of 19 public transit agencies providing service within an urbanized area in Michigan. Of these 19 transit agencies, only four transit agencies are operated as agencies or departments of municipal government (Table 6-5). The four agencies are Battle Creek Transit, Detroit Department of Transportation, Kalamazoo Metro Transit and Harbor Transit. The City of Niles also provides dial-a-ride transit service through a contract with a third-party provider. None of the four municipally operated transit systems, nor the Niles dial-a-ride service, is comparable to Battle Creek Transit based upon population served, service area and eligible expenses.

Table 6-5
Transit Agencies Operated as
Agencies or Departments of Municipal Government

Transit Agency	Pop. Served	Service Area	Expenses*
Battle Creek Transit, Battle Creek	77,921	104 sq. mi.	\$3,368,207
Dept. of Transportation, Detroit	951,270	1,262 sq. mi.	\$156,067,037
Harbor Transit, Grand Haven	18,407	10 sq. mi.	\$1,698,415
Kalamazoo Metro Transit, Kalamazoo	183,288	69 sq. mi.	\$12,292,263
Niles Dial-a-Ride, Niles	17,717	120 sq. mi.	\$645,711

* Total operating expenses for demand response and any fixed route service.

Source: MDOT, Fiscal Year 2007.

The remaining 14 transit agencies that provide service within urbanized areas in Michigan are operated either directly by a county or through an authority.

As an agency of municipal government, Battle Creek Transit is different from the majority of other urban transit systems operating in Michigan. These differences are evident by reviewing three major functions: administrative oversight, financing and staffing. Administrative oversight, such as routes, service hours, fares, etc., is the responsibility of the municipal government, as compared to an authority where these decisions are the responsibility of the authority board or director. A municipally operated transit agency often competes for financing with other municipally operated programs. Under traditional authority authorizing legislation, the established authority most often has the ability to seek its own funding through a millage. The City of Kalamazoo utilizes an authority to help finance the city-owned Kalamazoo Metro Transit System to help offset a city financial commitment. The leadership and staff of a municipally operated transit agency are often direct employees of the municipality while under a traditional stand-alone transit authority, the authority often directly employs the staff.

Table 6-6 identifies the remaining 14 transit agencies providing service within an urbanized area in Michigan.

Table 6-6
Michigan Urbanized Area Transit Agencies

Transit Agency	Urbanized Area
Ann Arbor Transportation Authority	Ann Arbor
Bay Metropolitan Transportation Authority	Bay City
Twin Cities Area Transportation Authority	Benton Harbor
Lake Erie Transit	Monroe
Suburban Mobility Authority for Regional Transportation	Detroit
Flint Mass Transportation Authority	Flint
Interurban Transit Partnership (The Rapid)	Grand Rapids
Macatawa Area Express Transportation Authority	Holland
Jackson Transportation Authority	Jackson
Capital Area Transportation Authority	Lansing
Livingston Essential Transportation Service	Howell
Muskegon Area Transit System	Muskegon
Blue Water Transportation Commission	Port Huron
Saginaw Transit Authority Regional System	Saginaw

Source: MDOT, 2007

For purposes of the peer analysis, the six largest transit systems serving the urbanized area with a population of over 200,000 have been eliminated for the review. Those transit systems are: the Detroit Department of Transportation, the Suburban Mobility for Regional Transportation, Ann Arbor Transportation Authority, Flint Mass Transportation Authority, Interurban Transit Partnership (The Rapid) and Capital Area Transportation Authority. Systems that did not provide fixed route service were excluded from the analysis as was the Blue Water Transportation Commission due to anomalies in the data. This leaves six peer transit systems operating in Michigan's urban areas with a population of less than 200,000 that are used for this peer analysis (see Table 6-7).

Battle Creek Transit has a service area that is larger than the Urbanized Area (UZA). This is somewhat unique for a municipally operated system. Of the six urban transit systems within the peer group, only three transit systems have a service area larger than the UZA. Further analysis indicates that the three transit systems operating beyond the UZA are providing county-wide service. The Battle Creek service area is large when compared to those transit agencies not operating county-wide service.

Table 6-7
Peer Analysis
System Characteristics*
(2007)

	Revenue Miles	Revenue Hours	Passengers	Operating Expenses	Urbanized Area (Square Miles)	Service Area (Square Miles)
Battle Creek Transit	615,424	40,831	478,773	\$3,368,207	51	104
Bay Metro Transportation Authority	2,110,557	86,476	610,980	\$6,667,549	40	447
Lake Erie Transit	758,953	52,742	375,328	\$3,127,114	NA	NA
Macatawa Area Express Transportation Authority	831,739	60,054	219,187	\$2,947,076	48	42
Kalamazoo Metro Transit Authority	2,016,958	150,250	3,073,958	\$12,292,263	108	69
Jackson Transportation Authority	995,369	66,855	555,025	\$4,633,420	52	86
Muskegon Area Transit System	569,060	42,289	529,377	\$2,342,074	100	527
Saginaw Transit Authority Regional System	928,175	72,057	796,957	\$6,005,652	74	63

* Revenue miles, Revenue Hours, Operating Expenses and Passengers are totals and include demand response and fixed route service.

Source: Miles, hours, passengers and expenses from MDOT for Fiscal Year 2007. UZA and Service Area Square Miles are from National Transit Database.

Five factors are used in this analysis to measure operating performance. Those factors are cost per passenger, cost per revenue mile, cost per revenue hour, passengers per vehicle hour, and passengers per mile (Tables 6-8). Battle Creek Transit's performance as measured by cost per passenger, passengers per vehicle hour and passengers per mile is better than the average of the transit systems within the peer group. For the operating performance factors measured by cost per mile and cost per hour, Battle Creek Transit cost exceeds the average of the peer group, meaning that Battle Creek Transit has higher cost per mile and cost per hour when compared to the peer group.

Using the factors of miles per vehicle and hours per vehicle, a comparison can be made regarding the use of the vehicle (Table 6-9). Battle Creek Transit is operating fewer miles and fewer hours than the average of the peer group. Of the six peer transit systems, all but one are operating more miles and all are operating more hours. This means the level of service being offered by Battle Creek is less than the average of the urban transit system within the peer group.

Table 6-8
Peer Analysis
Performance Measures*
(2007)

	Cost Per Passenger	Cost Per Mile	Cost Per Hour	Passenger Per Vehicle Hour	Passengers Per Mile
Battle Creek Transit	\$7.04	\$5.47	\$82.49	11.73	.78
Bay Metro Transportation Authority	\$10.91	\$3.16	\$77.10	7.07	.29
Lake Erie Transit	\$8.33	\$4.12	\$59.29	7.12	.49
Macatawa Area Express Transportation Authority	\$13.45	\$3.54	\$49.07	3.65	.26
Kalamazoo Metro Transit Authority	\$4.00	\$6.09	\$81.81	20.46	1.52
Jackson Transportation Authority	\$8.35	\$4.65	\$69.31	8.30	.56
Muskegon Area Transit System	\$4.42	\$4.12	\$55.38	12.52	.93
Saginaw Transit Authority Regional System	\$7.54	\$6.47	\$83.35	11.06	.86
Peer Group Average (excluding Battle Creek Transit)	\$8.19	\$4.59	\$67.90	10.03	.70

* Performance measures are a combination of fixed route and demand response service.
Source: MDOT, Fiscal Year 2007.

Table 6-9
Peer Analysis
Performance Characteristics*
(2007)

	Total Vehicles	Miles Per Vehicle	Hours Per Vehicle
Battle Creek Transit	28	21,979	1,458
Bay Metro Transportation	65	32,470	1,330
Lake Erie Transit	28	27,105	1,883
Macatawa Area Express Transportation Authority	27	30,805	2,224
Kalamazoo Metro Transit Authority	75	26,892	2,003
Jackson Transportation Authority	53	18,780	1,261
Muskegon Area Transit System	21	27,098	2,013
Saginaw Transit Authority Regional System	58	16,003	1,242
Peer Average (excluding Battle Creek Transit)	47	27,344	1,825

* Performance characteristics are a combination of fixed route and demand response service.
Source: MDOT, Fiscal Year 2007.

Goals, Objectives and Standards

The consultant reviewed the goals, objectives and standards that were developed as part of the BCT 1982 to 1986 Transit Development Plan and the 1994 to 1998 Transit Development Plan. Generally, the goals, objectives and standards presented in the two previous studies are valid today.

The following are those goals, objectives and standards with modification to make them applicable to existing conditions and advancements in technology.

Goal 1

Provide the highest feasible level of transit service.

Objective 1A

Serve employment centers, major shopping areas, governmental and educational facilities, and high density residential areas.

- All major facilities such as employment centers, shopping areas, governmental and educational facilities, hospitals and high-density residential should be served.

Objective 1B

Coordinate regular transit services with other forms of transportation, including, but not limited to intercity and demand-responsive transportation services.

- All other modes such as Amtrak, Indian Trails and local taxi-service should be accessible from BCT. This is accomplished at the Transportation Center located downtown.

Goal 2

Operate the transit system as efficiently as possible to contain overall costs.

Objective 2A

Maintain fares at a level at which passenger revenues contribute a significant share of total revenues.

- Attain a recovery ratio of at least 10 percent. The current rate is low at eight percent.

Objective 2B

Tailor the levels of service provided to ridership volumes and review low-productivity service for remedial action.

- Maintain at a minimum, 25 passengers per hour on the fixed-route system. The current systemwide weekday rate is just over 24 passengers per hour with individual routes ranging from 15 to 36 passengers per hour.
- Maintain at a minimum, three passengers per hour on the Tele-Transit service. The 2007 rate from the National Transit Database is just over two passengers per hour.

Goal 3

Provide convenient and safe transit service.

Objective 3A

Construct additional bus shelters and benches at high-volume boarding locations.

- All areas outside the downtown area with 15 or more daily boardings or areas with significant concentrations of elderly and disabled ridership should have a shelter.

Objective 3B

Minimize transit trip times to key destinations, with direct routings and minimal transfers.

- No more than 25 percent of riders on a given route should have to transfer to get to their destination. Currently, on a systemwide basis, more than 30 percent of all weekday trips require a transfer.

Objective 3C

Improve schedule adherence and reliability.

- Ninety-five percent of all trips should fall within zero to four minutes late on the fixed route service.
- All trips on the Tele-Transit should arrive within 15 minutes before or after the scheduled pick-up time.

Objective 3D

Continue to provide clean, well-maintained, and safe buses.

- A standard of 10,000 miles between road calls is proposed and there should be no chargeable accidents during the year.

Goal 4

Serve the travel needs of the transit-dependent.

Objective 4A

Continue the Tele-transit service to provide demand-responsive transit to senior citizens and the disabled.

- Adhere to all Americans with Disabilities Act regulations and guidelines.

Objective 4B

Provide service to residential areas with substantial low income, minority, or elderly populations.

- All concentrations of transit dependent populations should be served.

Goal 5

Expand the transit planning and policy-making framework and funding base.

Objective 5A

Determine an equitable cost allocation system for all jurisdictions benefiting from transit services.

- In the event that BCT service extends into other jurisdictions, those jurisdictions should assist in providing the local share of operating funds proportional to their benefiting residents.

Objective 5B

Establish an appropriate policy-making mechanism which represents all participating agencies and provides for citizen input.

- Currently, the Public Transportation Committee fills this role. In the event that service is extended into other jurisdictions, they should also have representation on the Public Transportation Committee.

Objective 5C

Coordinate transit system planning with the region's development and land-use policies, including preservation of a viable Battle Creek central business district.

- BCT should maintain a downtown presence in order to promote and preserve a viable downtown.
- BCT should continue to coordinate activities with the Battle Creek Area Transportation Study.

Goal 6

Increase transit ridership and reduce dependence on the automobile.

Objective 6A

Implement a marketing program which provides information on Battle Creek Transit service and promotes its use.

- Schedules should be readily available, easy to read and accurate.
- Telephone number should be well-publicized and staffed appropriately.
- The BCT website should maintain complete information on all services complete with maps and schedules that can be downloaded and printed.
- Bus stop signs should be marked consistently.

Objective 6B

Maintain a fare structure which provides incentives to ridership through means such as reasonable fare levels, simple transfer rules, and encouragement of pre-paid fares.

- Fares should be reasonable, relative to other costs of living and to the accessibility of the system.
- Transfers should be easy to understand and use.
- Weekly or monthly passes should be available, and discounted.
- Passes should be available for sale at multiple outlets and riders should be able to purchase passes via the BCT website.

7. Fares and Funding

Fare Analysis

The Battle Creek Transit fare analysis utilizes fare data from the 12 transit systems making up the Battle Creek Transit peer group. This peer group fare data, along with data from the Michigan Department of Transportation, provides the baseline for this fare analysis. The peer group fares were gathered from each transit system's Web site or directly from the transit system. All basic fare information was confirmed with a follow-up telephone call to each transit system. The fares have been separated by the basic services (fixed route and or dial ride) and other services (such as curb-to-curb service). Tables 7-1 and 7-2 summarize the fares by type of service for each transit system and by fare categories (adult, student, senior/disabled, etc).

Before reviewing the fare data, it is important to recognize three important underlying factors that can influence a transit system's decision concerning the establishment of a fare structure. These factors are: (1) The state statute requiring transit systems to provide persons 65 years of age or over or persons with disabilities preferential fares during off-peak periods of services, not higher than 50 percent of the regular one-way single fare. So, no matter what level the adult fare is set at, senior citizens and persons with disabilities will pay half of that fare during non-peak hours of service. (2) Within the peer group, the level of services (hours of services and route headways, etc.) and the type of services (county-wide/local and fixed route/dial-a-ride) will vary from system to system. The level and type of services will influence the fare structure. For example, transit systems providing county-wide service or service outside a city may utilize a zone fare structure, while those operating within the city limits may utilize a single base fare. (3) The level of local financial support through millages or other governmental contributions can also be a factor in determining the appropriate fare. For example, local decision-makers may decide to support higher local millages or governmental contributions in order to maintain a lower fare structure.

There are additional factors that can influence the fare structure. Ease of collection, the amount of revenue generated by a specific level of fare and the user/riders' understanding and support of the fare structure are some of the other factors that can influence the establishment of the fare structure.

Table 7-3 presents a summary of fare-related data for each of the transit systems in the peer group. This summary reflects fare box revenue as a percentage of total expense for each transit system and the average fare for the system irrespective of the individual fare or the rider classification. This table is intended to provide a general view or snapshot of how Battle Creek Transit compares in relation to the other transit systems in the peer group. Note the data utilized to develop this table is based on the fare structure, operating expenses and ridership in place in 2007 when the data were collected.

Battle Creek Transit Planning Study

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Table 7-1
Peer Group Fare Summary
(As of October 16, 2008 or as noted)

	Adult Basic Fare	Senior Citizens and Persons with Disabilities	Children's Fare	Transfers	Passes or Tickets
Battle Creek Transit	\$1.25	\$0.60	\$1.25 taller than fare box, shorter free	Free	12 Rides - \$11.00 48 Rides - \$40.00 Student - \$32.00
Bay Metro Transportation Authority (Bay City)	\$1.00	\$0.50	Student - \$0.75	Free	20 Rides - \$20.00 20 S/D Rides - \$10.00 20 Student - \$15.00 Eff. Nov 1, 2008
Twin Cities Area Transportation Authority (Benton Harbor) Fares eff. Oct 1, 2008	\$2.00	\$1.00	Child - \$1.25	No Transfers	Tokens - \$2.00
Lake Erie Transit Fares eff. Sept 1, 2008	\$1.00	\$0.50	Age 6-12 - \$0.50 Age 5-0 - Free	Free	40/\$0.50 tickets - \$20.00 Monthly, unlimited rides - \$30.00 (Students - \$25.00)
Harbor Transit (Grand Haven)	\$1.50	\$0.75	Age 18-0 - \$0.75	No Transfers	Fare Card - 10 rides for price of 8 rides
Macatawa Area Express Transportation Authority (Holland)	\$1.00	65+ and disabled - Free	Age 5-17 - \$0.50 Age 5-0 - Free	Free	Monthly - \$30/\$15 Punch Pass - \$10.00 (an \$11.00 ride value) Student - \$50.00/semester (unlimited)
Kalamazoo Metro Transit Authority	\$1.35	\$0.65 after 10 a.m. to 3 p.m. - \$1.35 otherwise	Age 6-14 - \$1.20 Age 5-0 - Free	Free	25 ride - \$33.75 to \$16.85 Monthly - \$44.55 (unlimited) Child 20-ride - \$24.00
Jackson Transportation Authority	\$1.50	\$0.75	Student - \$1.00 Child - \$0.75	Free	Monthly Pass Card Adult - \$54.00 S/D - \$27.00 Student - \$34.00 Child - \$27.00
Livingston Essential Transportation Service (Livingston County)	Based on townships traveled: 1 = \$2.00 2 = \$2.00 3 = \$4.00 4 = \$6.00	Based on townships traveled: 1 = \$1.00 2 = \$1.00 3 = \$2.00 4 = \$3.00	Age 0-5 - Free Age 5-16 - \$0.50	Free	Tokens, valued at \$1.00, \$2.00 or \$3.00 - sold at ten percent discount
Muskegon Area Transit System	\$1.00	\$0.50	Students - \$1.00 Age 5-0 - Free	Free	Monthly Pass: Adult - \$35.00 S/D - \$15.00 Student - \$30.00 Also, a ten-ride pass at regular fare
Niles Dial-a-Ride	In city - \$3.00 Out of city - \$4.00	In city - \$1.50 Out of city - \$4.00	In city - \$1.50 Out of city - \$4.00	Free	10-ticket pkg. - regular price
Blue Water Transportation Commission (Port Huron)	\$0.75	\$0.35	Age 6-17 - \$0.60 Age 5-0 - Free	Free	Monthly Pass - \$25.00 (unlimited)
Saginaw Transit Authority Regional System (Fares eff. Nov 1, 2008)	\$1.25	\$0.60	Children under 42" - \$0.60	Free	5 Rides - \$5.75 10 S/D rides - \$5.75 10 Rides - \$10.75 20 S/D rides - \$10.75 20 Rides - \$20.00 40 S/D rides - \$20.00

Battle Creek Transit Planning Study

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Table 7-2
Peer Group Fares for Other Services
(As of October 16, 2008 or as noted)

	Service	Adult	Senior Citizens Persons with Disabilities	Children	Other
Battle Creek Transit	Tele-Transit	\$7.00 one-way	\$2.00 - one-way	\$7.00 - one-way	Evening Dial A Ride \$5.00 one-way
Bay Metro Transportation Authority (Bay City)	Dial a Ride (curb-to-curb)	\$3.00 (if available) Eff. 10-31-08	\$1.50 Eff. 10-31-08	\$3.00 (if available) Eff. 10-31-08	Flexed route for Spec Ed Students \$0.75
Twin Cities Area Transportation Authority (Benton Harbor) Eff. Oct 1, 2008	Benton Harbor – Royalton Royalton – Others	\$4.50 \$6.00	\$2.25 \$3.00	\$2.00 \$2.50	N/A
Lake Erie Transit (Monroe) Eff. Sept 1, 2008	ADA & Essential Transportation Service	\$2.00 (If available)	\$1.00	Age 6-12 – \$1.00 Age 0 –5 – free (if available)	N/A
Harbor Transit Grand Haven	Trolley (Seasonal)	\$1.50	\$0.75	Age 0-18 – \$0.75	N/A
Macatawa Area Express Transportation Authority (Holland)	Reserve-a-MAX (not available to able-body person 5 to 69 within ¼ mile of fixed route	\$3.00	\$1.00	Age 5-17 – \$1.00 Age 0-5 – Free	Pass can be used for either fixed route of Reserve –a- MAX
Kalamazoo Metro Transit Authority	Metro Van – scheduled	\$2.70 one-way			Coupon Book 10 rides \$27.00
	Care-A-Van – scheduled	\$12.15 regular trip for non- registered person	\$3.35 reduced fare trip non – routine call in for registered person	See Adult fare	\$6.85 contract trip paid by agency \$4.73 routine subscription trip paid by
Jackson Transportation Authority	Reserve-a-Ride and Paratransit for Employment and Training	Zones: 1 to 1 - \$4.00 1 to 2 - \$5.00 1 to 3 - \$7.50	Zones: 1 to 1 - \$2.00 1 to 2 - \$2.50 1 to 3 - \$3.00	Zones: 1 to 1 - 2.50 1 to 2 - \$3.50 1 to 3 - \$7.50	PET Zone: 1 to 1 - \$3.50 1 to 2 - \$4.25 1 to 3 - \$5.65
Livingston Essential Transportation Service	Regional Ride outside county for medical trips	\$20.00 round trip	\$10.00 round trip	\$20.00 round trip	Billing organization for regular scheduled trip is \$5.00 per trip.
Muskegon Area Transit System	Go-Bus for S/D Curb-to-Curb, pre-scheduled	N/A	Zone Metro \$2.00 Zone 1 \$3.00 Zone 2 \$5.00	N/A	Trolley Adult \$1.00 S/D \$0.50 Student \$1.00
Blue Water Transportation Commission	N/A	N/A	N/A	N/A	Trolley \$0.10
Saginaw Transit Authority Regional System	Lift Service (Seniors & Disabled)	\$5.00	\$2.50	\$5.00	N/A
	Additional zone beyond ¾ mile of fixed route	\$1.25	\$0.60	\$1.25	
Niles Dial-a-Ride	N/A	N/A	N/A	N/A	N/A

N/A = Not Applicable

Table 7-3
Peer Group Fare Revenue

	Total Passengers	Fare Box Revenue	Fare Box as Percentage of Expenses	Average Fare
Battle Creek Transit	478,773	\$287,754	9%	\$0.60
Bay Metro Transportation Authority	432,400	\$428,608	11%	\$0.99
Twin Cities Area Transportation Authority	175,183	\$280,411	20%	\$1.60
Lake Erie Transit	298,971	\$112,220	5%	\$0.38
Harbor Transit	135,652	\$135,060	9%	\$1.00
Macatawa Area Express Transportation Authority	219,187	\$198,836	7%	\$0.91
Kalamazoo Metro Transit Authority	2,555,615	\$1,753,097	18%	\$0.69
Jackson Transportation Authority	543,160	\$652,472	18%	\$1.20
Livingston Essential Transportation Service	92,195	\$233,000	12%	\$2.53
Muskegon Area Transit System	529,377	\$296,351	13%	\$0.56
Niles Dial a Ride	60,776	\$71,243	14%	\$1.17
Blue Water Transportation Commission	752,211	\$1,284,534	24%	\$1.71
Saginaw Transit Authority Regional System	768,379	\$588,772	10%	\$0.77
Average Excluding Battle Creek	-NA-	-NA-	13.4%	\$1.13
Average Excluding Battle Creek, Livingston Essential Transportation Services and Niles Dial-a-Ride	-NA-	-NA-	13.5%	\$0.98

Source of Data: Michigan Department of Transportation 2007 Reconciled, Ridership Report and Revenue/Expense Report, from the Public Transportation Management System Performance Indicators Report.

The Battle Creek Transit basic adult fare of \$1.25 is the average of the peer group transit systems that have a basic non-zone fare in place. Within this peer group, the highest adult fare is the \$2.00 fare of Twin Cities Area Transportation Authority in Benton Harbor and the lowest adult fare is the \$0.75 of Blue Water Transportation Commission in Port Huron. Two systems, Livingston Essential Transportation Services and Niles Dial-a-Ride utilize a zone fare structure. The lowest zone fare for each of these systems is \$2.00 and \$3.00, respectively. Table 7-3, however, indicates that Battle Creek Transit's average fare for all riders is \$0.60, which is below the \$0.98 for the peer group of transit systems that do not utilize a zone fare structure.

Increasing the Battle Creek base fare from \$1.25 to \$1.50 or to \$2.00 would generate approximately \$345,000 to \$460,000 assuming no decrease in ridership; however, a ridership decrease is typically associated with a fare increase. Transit elasticity is a measure of ridership reaction to change in fare. The latest research published by the American Public Transportation Association (APTA) indicates that fare elasticity for transit systems in areas with population of less than one million is -.43. This means that for each one percent increase in fares, a .43 percent decrease in ridership can be expected. Thus, BCT can't just increase fares and expect fare revenue to increase proportionately. If the formula holds true, and BCT were to increase from \$1.25 to \$1.50 (a 20% increase), ridership would be expected to decline by 8.6 percent (.43% for each 1% increase in fares). This would result in fixed route ridership of 396,142, down from 433,416. Assuming the new average fare for the fixed route system would be \$.72, 48 percent of the full fare as it is currently, the fare revenue for the fixed routes would increase to \$285,000 from \$261,000.

As noted above, two of the transit systems in the peer group utilize a zone fare structure. Livingston Essential Transportation Services zone fare is based upon the number of townships an individual travels in order to get to their destination. The maximum zone fare charged by Livingston Essential Transportation Service is \$6.00. This \$6.00 fare will allow a person to get from one end of the county to the other end of the county. Niles Dial-a-Ride also uses a zone fare structure of \$3.00 for a trip in the city and \$4.00 for a trip outside of the city. Table 3-3 shows Livingston Essential Transportation Service has the highest average fare of \$2.53. Niles Dial-a-Ride has the fifth highest average fare of \$1.17. Since most of Battle Creek Transit services are within the city limits, establishing a zone fare structure may not currently have a substantial financial impact. However, establishing a single zone surcharge for service outside of the city limits of Battle Creek recognizes the financial burden of providing service outside of the city limits, and may offset concerns about serving townships and or other units of government that do not contribute financially to Battle Creek Transit operations. Should Battle Creek Transit expand service beyond the city limits in the future, establishing a zone fare surcharge or additional fare for those wanting to make trips outside the city limits, at this point in time, may allow more flexible pricing options in the future. A surcharge of \$0.50 for service trips outside of the city limits would generate a nominal amount of additional revenue, but could help in justifying service to areas outside the city limits.

As described above, state law provides that persons 65 years of age or over, as well as persons with disabilities, will be charged a preferential fare not higher than 50 percent of the regular one-way fare during off-peak periods of service. The majority of the peer group, as well as Battle Creek Transit, have established a single fare for senior citizens and persons with disabilities at one-half of the regular one-way fare for a ride any time of the day. Only Kalamazoo Metro Transit Authority has established a fare for senior citizens and persons with disabilities based on the time of day a person rides. Rides during the off-peak hours of 10:00 a.m. to 3:00 p.m. are \$0.65, which is 50 percent of the regular one-way fare during that time period; however, if a senior citizen or person with disabilities wants to ride during the peak hours they pay the full fare of \$1.35. One of the peer group systems, the Macatawa Area Express Transportation Authority, provides free rides to individuals 65 years of age or older and for persons with disabilities. Based upon the existing make up of the Battle Creek Transit Ridership (27% seniors and/or disabled), and vehicle capacity, it is recommended that the 50 percent fare for seniors and disabled be maintained for both peak and off-peak periods.

Ten of the transit systems in the peer group provide transfers. None of those ten transit systems charge for transfers. Transferring buses is viewed as a necessary inconvenience for a person to get to their destination. Charging a fee for the inconvenience is currently not the norm within the peer group. Charging for transfers could also slow the boarding time, increasing the running time of the route. However, BCT's high transfer rate does play a role in the system's low average fare. Each unlinked trip, even if it is a transfer, is included in the average fare calculation.

All of the transit system within the peer group offer passes or tokens to their riders. Five transit systems in the peer group, including Battle Creek Transit, provide the opportunity to purchase the passes or tokens at a discount. The level of discount varies from system to system; however, in general, it appears that the discount level provided by Battle Creek Transit appears generous in comparison to the discounts offered by other peer systems. Other transit systems offer the passes or tokens at the regular fare price, as a convenient way to save riders the time and the hassle of having the correct change for the fare each time they ride. Should Battle Creek Transit increase its fare

structure, it also should re-examine the objectives of the pass program to determine if offering a discount is consistent with its overall fare structure goals.

The other fares listed in Table 7-2 reflect a wide variety of transit services that, in most cases, are focused on providing service for senior citizens and persons with disabilities. Battle Creek Transit's fare of \$2.00 for senior citizens and individuals with disabilities appears to be in line with the fares charged by the other peer group members.

Potential Funding Sources

No transit system including Battle Creek Transit can be expected to meet all of the transportation needs of all of the citizens living within its service area, with the fixed route service. Traditionally, fixed route service is structured to meet the basic transportation services requirements of the rider through out the course of the day by providing services to major travel destinations, for business, shopping, school and medical appointments. When fixed route service is provided on the weekends or in the evening the services is often provide with less frequency.

Through stakeholder meetings and surveys, the consultant team was made aware of specific transportation service needs with in the Battle Creek area that are difficult to accommodate with Battle Creek Transit's existing services and resources. Those unmet needs included after hours services for employment, particularly for low-income employees working the third shift at Fort Custer. Also identified was a growing need for transportation services to medical facilities, especially for dialysis patients. Due to the increase in dialysis patients and extended treatment times, some of the dialysis centers are extending their operating hours and even considering providing service through out the night.

Recognizing the limitations of fixed route service, Battle Creek Transit also provides specialized transit services focused on the needs of the elderly and disabled through the Tele-Transit Service. The Tele-transit service is a door to curb service that provides Americans with Disabilities Act of 1990 (ADA) services to the elderly and disable. The Tele-Transit service operates the same days and hours as the fixed route service. Battle Creek Transit also provides evening dial-a-ride services from 6:00 p.m. to 11:30 p.m. This service is intended for workers needing transportation to their jobs and residents that need to do their shopping in the evening.

In addition to the fixed route and Tele-Transit services mentioned above, there are other federal and state supported public transportation programs that can further enhance the services provided by Battle Creek Transit.

Other Special Service Transit Program opportunities Battle Creek Transit may consider include:

Job Access and Reverse Commute Grant Program (JARC) (Section 5316)

The JARC program assists in developing new or expanded transportation services that connect welfare recipients and other low-income persons to jobs and other employment related services. The Job Access projects are focused on developing new or expanded transportation services such as shuttles, van pools, new bus routes, and guaranteed ride home programs for welfare recipients

and low income persons. The Reverse Commute projects are focused on transportation services to suburban employment centers from urban, rural and other suburban locations for all populations. JARC funds are intended to fund innovative and flexible programs that address transportation to employment needs of individuals with limited incomes as well as providing transportation opportunities from urban and non-urban areas to the suburbs for individuals of all income levels. Funds are available for capital, planning, operating such as late night and weekend services, technology to help coordinate service such as dispatching equipment, mobility management/coordination programs and marketing expenses. The funding from the JARC Program can finance 80 percent of the cost of a capital project and up to 50 percent of the net operating cost of a project. The funds may finance 100 percent of the cost for administration, planning and technical assistance. In order to apply for these funds the project must be derived from a locally developed, coordinated public transit–human services transportation plan.

New Freedom Funds (Section 5317)

The New Freedom Funds seeks to provide additional tools to overcome existing barriers facing persons with disabilities seeking integration into the workforce and full participation in society. The New Freedom Program is focused on expanding transportation mobility options available to people with disabilities beyond the requirements of the Americans with Disabilities Act (ADA) of 1990, by reducing barriers and expanding transportation mobility options available to people with disabilities. New Freedom Funds are available for capital and operating expenses that support new public transportation services and new alternatives beyond those required by ADA. Service examples under the New Freedom programs may include: the incremental cost of providing same day ADA services, expanding the hours of ADA service, vehicles and equipment to accommodate mobility aids over the ADA established ratings, travel training, purchase of vehicles to support new accessible taxi programs, new volunteer drive and aide programs, mobility management and coordination programs. The funding from the New Freedom Program can finance 80 percent of the cost of a capital project and up to 50 percent of the net operating cost of a project. The funds may finance 100 percent of the cost for administration, planning and technical Assistance. In order to apply for these funds the project must be derived from a locally developed, coordinated public transit–human services transportation plan.

Recommendation

Both the JARC Grant Program and the New Freedom Funds Program, require the development of a locally developed, coordinated public transit–human services transportation plan, in order to be eligible for funding under these programs. Battle Creek Transit should take the lead in the development of a Public Transit–Human Services Transportation Plan. This activity will include the identification of public and private stakeholders, meetings/public input to identify and access the current situation, the establishment of goals and specific services needs, development of strategy to meet the needs and the establishment of project priorities and measures to determine success. Some of the information gathered during this Transit Planning Study such as focus group feedback, survey results and service analysis can be used as base data to jump-start the development of the Public Transit–Human Services Transportation Plan. With the reauthorization of the Federal Transportation Authorizing Legislation scheduled to take place in 2009, it is very likely that additional Federal funds will be authorized for these two programs. Development of the

coordinated public transit–human services transportation plan now should allow Battle Creek Transit to be eligible to apply for project funding, under the new Federal authorization.

In addition to the JARC and New Freedom Programs, the MichiVan Commuter Vanpool Program and the Ridesharing Program can help meet certain regular, ongoing transportation service needs that transit agencies cannot meet. One example may be late evening services to a work facility such as Fort Custer.

8. Optimal Service Scenario

An important component of this study was to determine the optimal transit service design paradigm for Battle Creek given its current and projected demographic characteristics, its physical characteristics, and a realistic approach to capital and operational financial resources. This analysis was structured so that other systems can examine their own community with a similar methodology.

To do this, the consultant first considered the following:

- What are the types of transit service that are, and will likely be in the future, available to a community like Battle Creek?
- What are the generators that are and will need to be served?
- What are the demographic characteristics of the community?
- Based on survey data, where do people want to go on the transit system – i.e., what are the prevailing travel patterns?
- What is the impact of the recent increase in fuel prices, which has led to a surge in transit ridership in 2008?

Each of the above is discussed below.

System Design Considerations

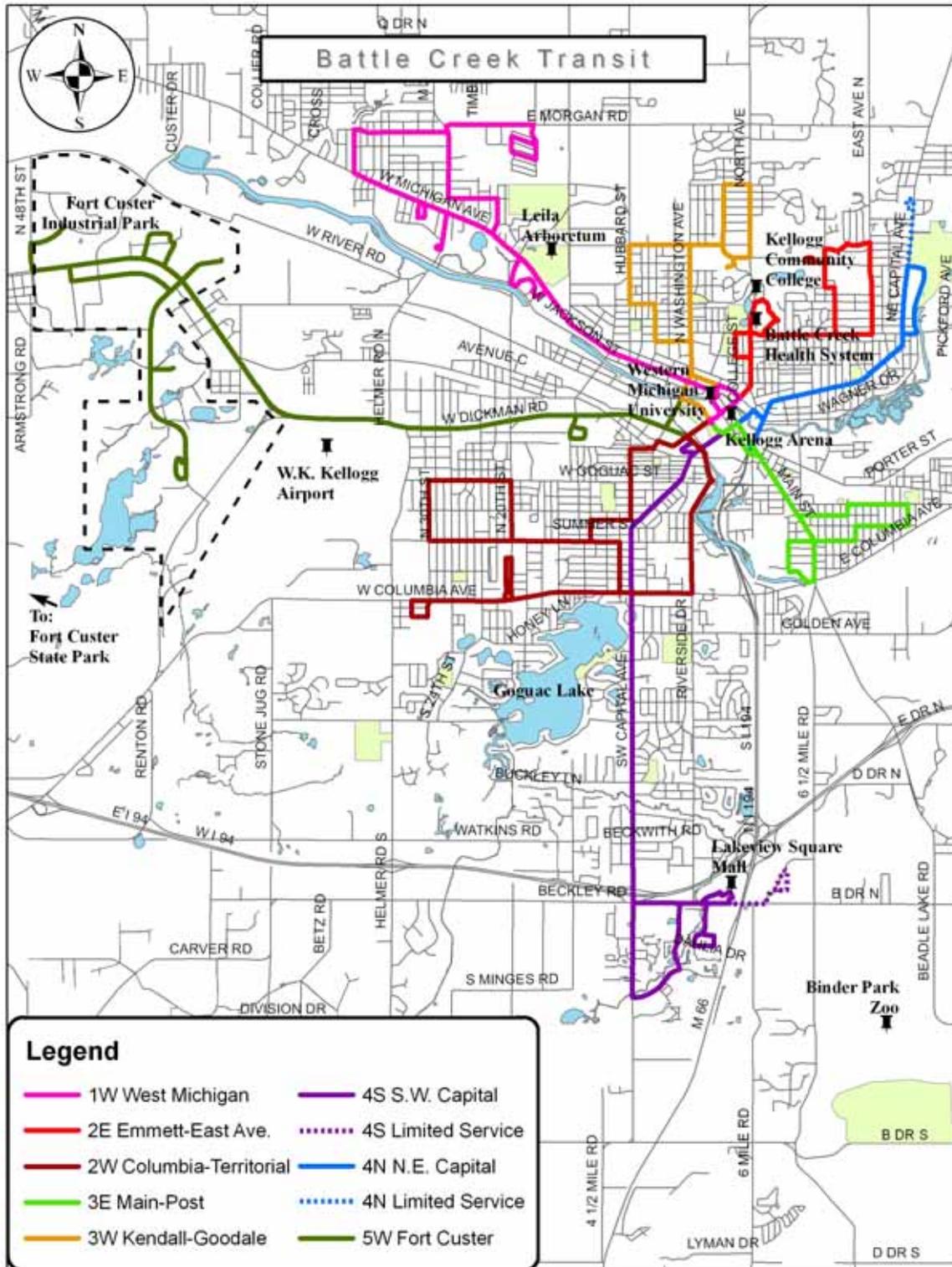
The following is a detailed discussion of considerations that go into the development of an optimum service scenario.

Service Options

There are several service options that realistically can be considered in Battle Creek. These include traditional fixed route transit, which most people recognize as a 40' bus trundling along city streets on fixed routes passing by the same series of published stops every trip. Another option is flexible routing or route deviation service, which is a zonal based service where a bus maintains fixed or scheduled time points but with no fixed path between them, deviating to pick up passengers. The third option is what is known as demand response or dial-a-ride. Typically, people call the bus system and request to be picked up and taken to a destination. Often, a return trip is scheduled at the same time. Depending on the system, these trips are scheduled one day or more in advance or on request.

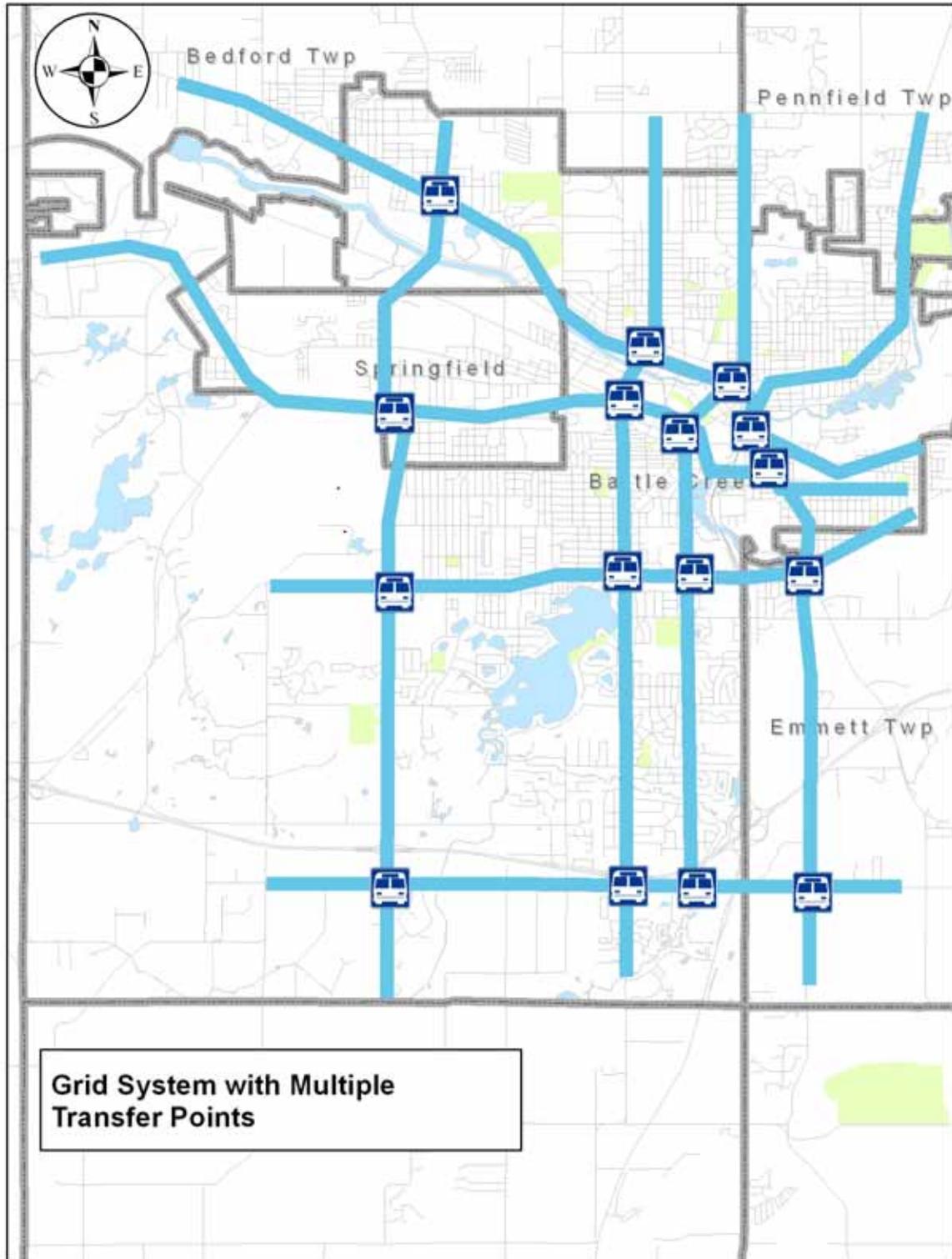
Figures 8-1 and 8-2 show two typical transit system design scenarios – radial fixed route and a grid system. Radial systems are more common in smaller communities while larger communities often have a grid oriented system. Battle Creek has a traditional radial “hub and spoke” system.

Figure 8-1
Radial Hub and Spoke System
Battle Creek Transit Today



Source: The Corradino Group, Inc.

Figure 8-2
Grid System Concept



Source: The Corradino Group, Inc.

Examples of public dial-a-ride service in smaller cities and urban areas in Michigan can be found in Marshall and Howell. Flexible routes are less common but have been operated in Traverse City. Most systems, even in small areas, operate fixed routes, which are then supplemented by demand response service for the elderly and people with disabilities. Typically all of these services are operated with diesel buses capable of carrying 20 passengers or more. One of the complaints often heard about transit systems of any size is that "...the buses are always empty." Some systems are experimenting with alternative services and alternative sized vehicles to more appropriately provide service based on the characteristics of the community.

Generators

Battle Creek is a city of about 53,000, with a large lake in the southern portion of the community. Figure 8-3 shows the generators in the city. For this study, generators are defined as those locations where people go to work, shop, participate in recreational activities, etc. As can be seen on Figure 8-3, there are five primary generators in Battle Creek and seven secondary generators.

All of these generators are served to some degree by BCT. Two issues became very clear during the surveys conducted for the study. The Wal-Mart in the Beckley Road area was the predominant place cited by people as needing service. The Fort Custer area, while served, has limited evening and night service provided by BCT's Tele-Transit operation, which is often at capacity and cannot be accessed. This provides severe duress on the people working second and third shifts in this area. Riders also cited the City of Springfield and places such as Fairlane Apartments (that had previously been served) as places they thought should be served.

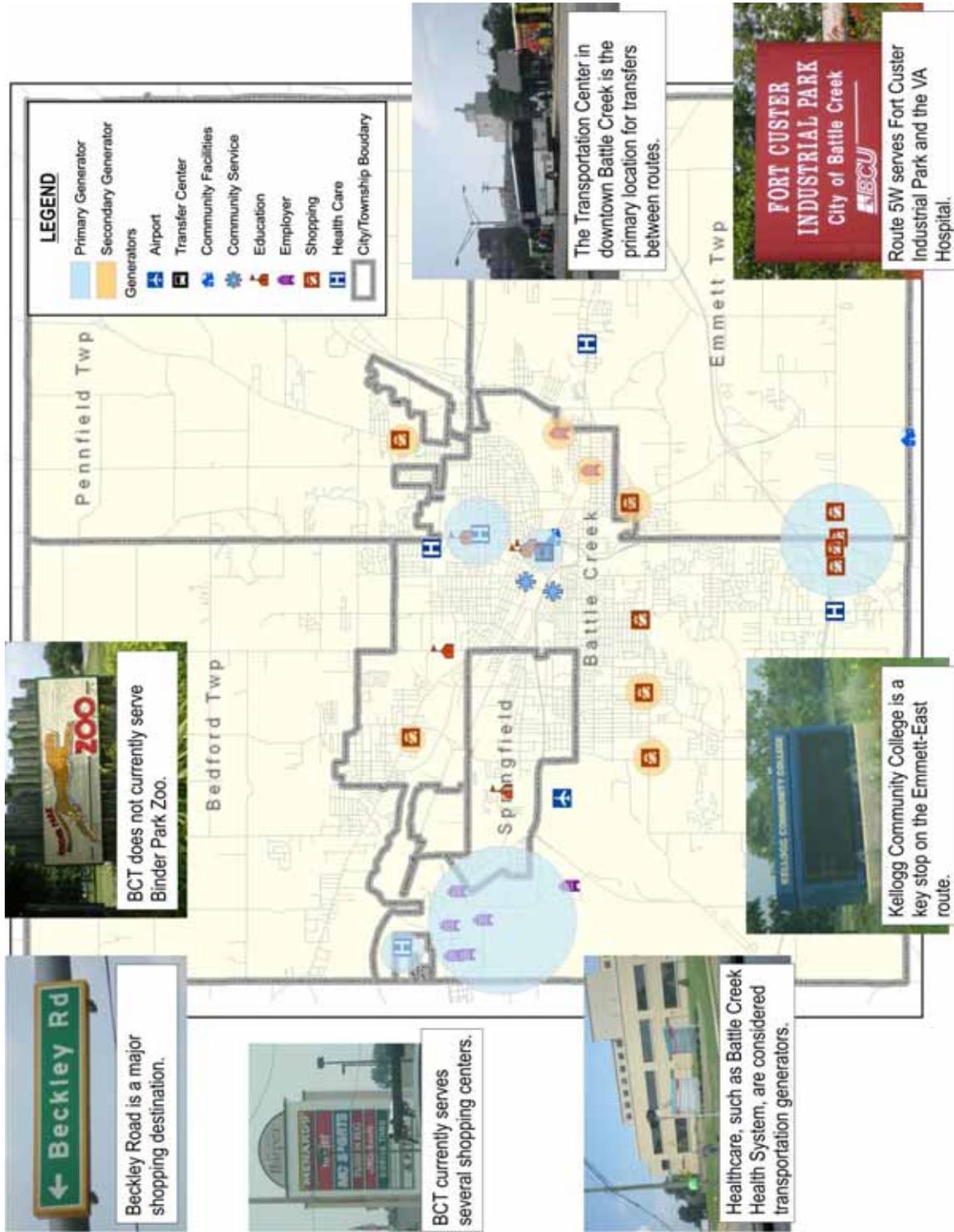
Demographic Characteristics

Battle Creek is a relatively low-density community with an average of approximately 1,200 people per square mile. Figure 8-4 shows the overall population density throughout various areas of the community. Transit service design standards have been established using population density as a criterion. This is not to suggest that these standards are set in stone. Consideration should also be given to generators, employment concentrations, and other factors when designing transit services. For this analysis, the consultant has used standards from the Institute of Transportation Engineers (ITE).² These standards suggest the following:

- <2000 people per square mile – demand response service;
- >2000 but <4000 people per square mile – one-hour fixed route bus service in each direction;
- >4000 but <8000 people per square mile – 30-minute fixed route bus service in each direction; and,
- >8000 people per square mile – ten-minute bus service in each direction.

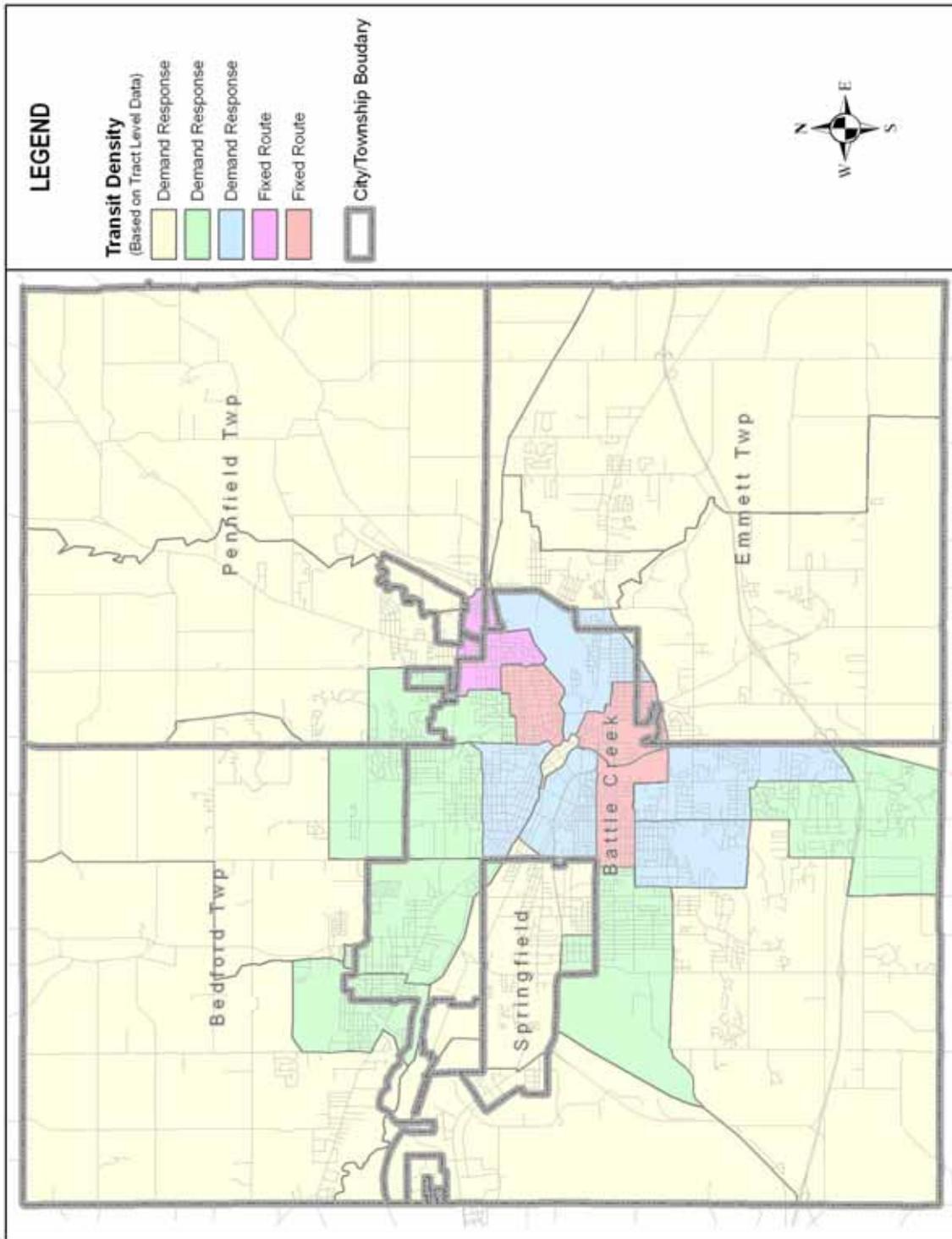
² A Toolbox for Alleviating Transportation Congestion, Institute of Transportation Engineers, 1999.

Figure 8-3
Generators



Source: The Corradino Group, Inc.

Figure 8-4
Transit Density



Source: The Corradino Group, Inc.

As indicated, the standards call for more public transit service in areas with higher densities. These areas also tend to be where people most likely to use transit live. These typically have included the elderly, people with low incomes and those without access to an auto. In the last year, with the rapid rise in gasoline prices, public transit agencies in many communities have experienced a dramatic rise in ridership by non-traditional customers.

Travel Patterns

Based on information collected through the surveys and a transfer analysis conducted for the study, there are distinct trends in travel. A large number of BCT riders transfer. Many people take more than two trips per day. Common destinations are downtown, Beckley Road businesses, Fort Custer Industrial Park, the VA hospital, and a variety of grocery stores. Respondents to the general public survey cited Beckley Road as their most common destination.

Impact of Fuel Prices

BCT has yet to experience significant increases in ridership due to the rise in fuel prices. This is likely due to the relative compactness of the community. Nevertheless, in the general public survey, reported in Technical Memorandum 1 of this study, 75 percent of respondents said if gas prices increased to more than \$5 per gallon, they would consider using transit.



Standing-room-only Bus, Bullitt County Express, Louisville, Kentucky, July 2008

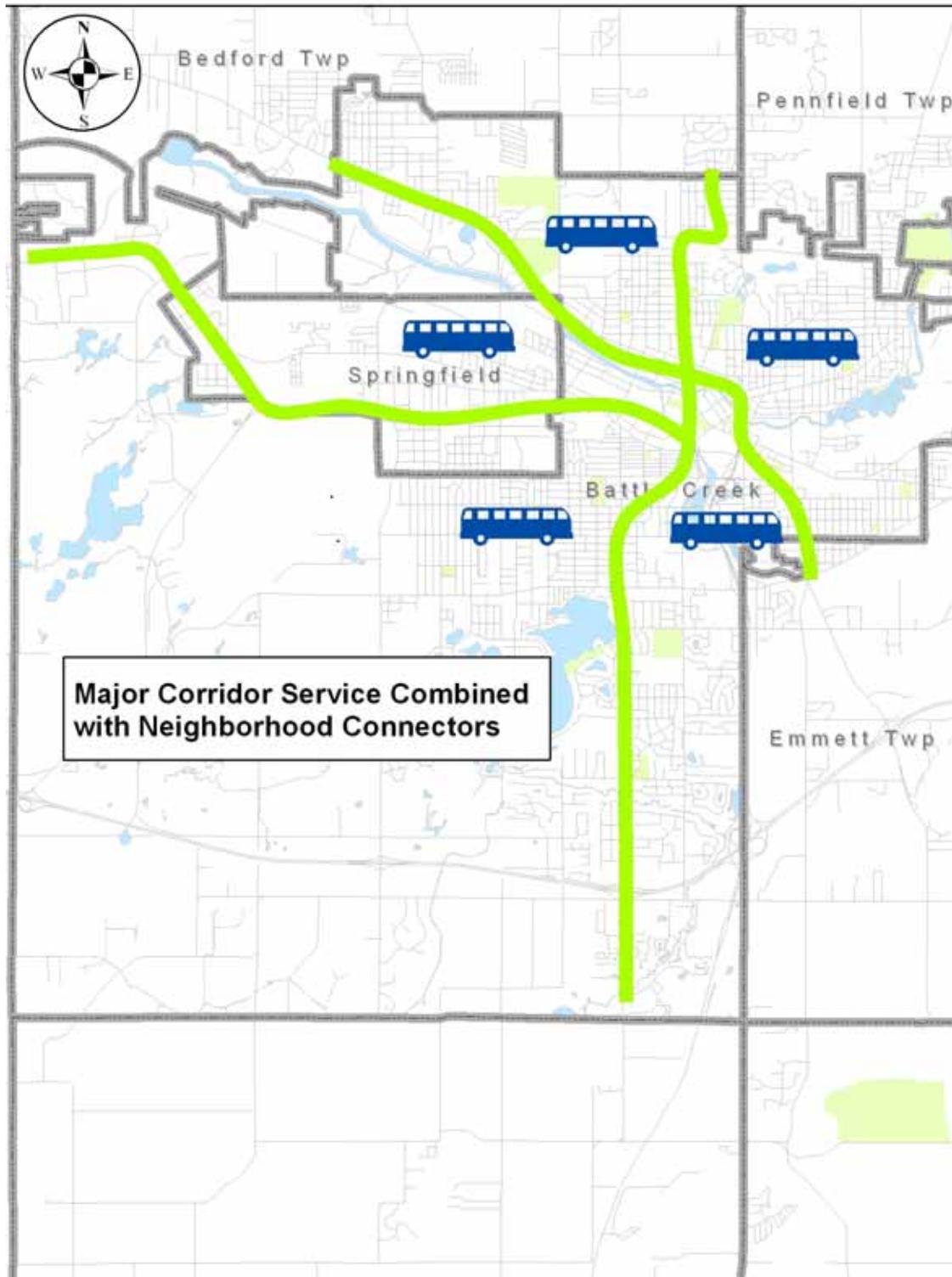
Service Type

Examination of the information presented above indicates that for Battle Creek, a radial hub and spoke system makes more sense than a grid. This is due to 1) the geography of the community; 2) the relative low densities beyond the urban core; and, 3) the dispersed location of major generators. A radial system is essentially what exists today. However, as illustrated and discussed in Chapter 2, there are inefficiencies in a number of the existing routes. The proposed radial service would focus on major travel corridors with service as direct as possible and operating on 30-minute headways. A flex-route service similar to Tele-Transit but operating in zones with smaller vehicles, such as the Goshen Coach Pacer 2, or even minivans, is proposed. This service would operate in zones and drivers would be contacted either by dispatch or, as occurs in Toledo, Ohio, directly by cell phone. Ideally, the system should operate the remaining fixed routes at 30-minute headways. Figure 8-5 illustrates how this service may be configured in Battle Creek.



Goshen Coach, Pacer 2, Ten to 12 Passengers, \$55K to \$75K Per Vehicle

Figure 8-5
Major Corridors Service Scenario



Source: The Corradino Group, Inc.

Service Design

The next step in the system design process was to examine the city by area and determine what type of service makes sense for each area. The basis for the determination was the density of the area, the performance of transit in that area (see Chapter 2 of this report), and the presence of major generators. It should be reiterated that the system design is focused on what type of system makes sense for Battle Creek. The design, at this level, is not constrained by BCT's existing budget, although it has been developed with consideration given to fiscal viability. Eight routes operating along major corridors are proposed. These have been designed to be as direct as possible, consistent with fixed route design standards that are detailed in Appendix C. The fixed routes would operate on 30-minute headways. The proposed Call-a-Ride service, which could replace or supplement the Tele-Transit concept for the general public (Tele-Transit would still operate the ADA service) would operate in five zones.

The service would operate as a flex route and have designated time points within the zones where people could be picked up without a call. People would be able to go door to door anywhere in that zone or taken to one of the major corridor routes. Several super stops are proposed. These would be at junctures of multiple routes or at major destinations and would be locations where the Call-a-Ride could easily interface with the route system.

A circulator service is proposed for the Beckley Road area. This circulator would provide continuous coverage for the various stores in the area and eliminate the need for the BCT fixed route service to try and get BCT customers to a multitude of destinations along a congested section of roadway with numerous access points, driveways and parking lots. A limited, perhaps Saturday only, extension to the Binder Park Zoo is suggested, if an appropriate financial arrangement can be set up with the zoo.

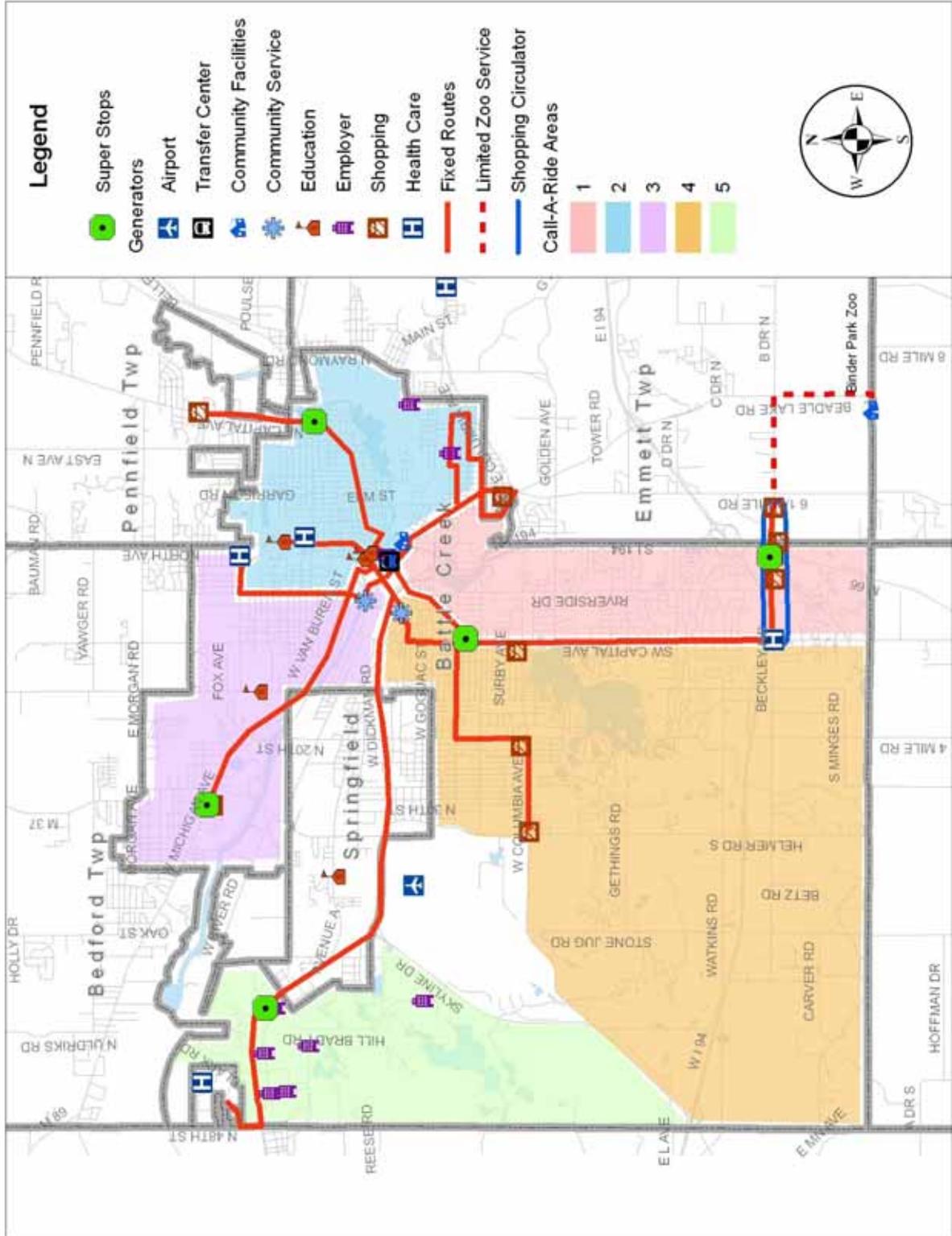
The proposed service design is shown in Figure 8-6. This preliminary concept will be reviewed with the City staff and the Public Transportation Committee. It is felt that the proposed design offers the following:

- Greater efficiencies to the fixed route service;
- Improved service for BCT's primary customers through the frequency improvements;
- Reduced conflict of Tele-Transit and ADA;
- Greater flexibility for people working at Fort Custer;
- Possible reduction of the "empty bus perception;" and,
- A viable service option for people living in the lower density areas of Battle Creek.

Service Span

Optimally, the system would operate from 5:30 a.m. to 9:00 p.m. Monday through Saturday. A limited version of the Call-A-Ride would be in operation from 9:00 p.m. to 5:30 a.m. This service would make it possible for people to get to or from work on late shifts. Similar to night service, the Call-A-Ride limited service would be available on Sundays.

Figure 8-6
Battle Creek Optimal Design Scenario



Source: The Corradino Group, Inc.

Vehicle Type

The system would have hybrid-electric vehicles. Because transit service operates at relatively low speeds much of the time, a good portion of the travel time would be operated under battery power, thus reducing dependence on fuel. Initially, any new vehicles acquired for the new Call-A-Ride service should be hybrid. Over time, the entire fleet could be converted.

9. Recommendations

The Battle Creek Transit Planning Study began with an analysis of existing conditions of the transit system and the community. From these data, a needs analysis was conducted. An operational analysis of BCT followed. These components were then reviewed and an optimum service scenario for Battle Creek was developed. The analyses that were conducted indicated that, generally, the BCT system as it exists today serves the key areas of the City of Battle Creek given population densities and characteristics, as well as transportation generators. It was also determined that a radial system, as exists today, is the best way to serve the City of Battle Creek.

Using the service alternatives analysis as a guide, and a somewhat cost constrained approach, improvements and enhancements were identified for the existing system. The consultant conducted a workshop with BCT staff and discussed each route in detail and also potential new or expanded services. The concept of the call-a-ride service was eliminated due to cost considerations associated with adding a significant number of additional vehicles. The result is the set of recommendations that follow.

The service improvements to the Battle Creek Transit system include modifications to route headways, re-routing, circulator services, super stops, regional connections and potential expansion of the evening van service. Realizing that all improvements cannot be done immediately, recommendations have been divided into three time periods consisting of short-term, medium-term and long-term recommendations. Short-term recommendations are items that can be implemented in six months or less. Medium-term recommendations are estimated to take six months to two years to implement and long-term recommendations are improvements are at least two years away from being implemented. Generally, less costly recommendations can be implemented in the short-term. Recommendations requiring additional study or additional capital equipment or staff require a longer period of time for implementation. Also included in the recommendations is moving the existing downtown transfer facility. This is necessitated by development in Downtown Battle Creek, not for improvement associated with any operational issues.

Short-term Recommendations (0 to 6 months)

Short-term recommendations are shown in Figure 9-1. As indicated, the short-term recommendations consist primarily of route modifications and headway improvements.

1W – West Michigan Modifications

It is proposed that Route 1W be shortened with service focused primarily on West Michigan Avenue. The portion of the route that extends to Rolling Hills Mobile Home Park has very little ridership. It is recommended that this portion of the route be eliminated. The primary ridership activity on the route is concentrated at the Urbandale Plaza and the McDonald's on West Michigan Avenue. Modifying this route will shorten the running time to 30 minutes. In an effort to achieve a 30-minute

running time (round-trip) on the route, it is recommended that the service along Barney Boulevard and Willard Avenue be eliminated and also the deviation into the Arbor Pointe complex on the south side of Michigan Avenue also be eliminated. It can then be interlined with route 2E. The resources saved by modifying this route can be reallocated to improve Route 4N-NE Capital. The 1W – West Michigan route will become a 30-minute route operating once per hour.

2E – Emmett-East Modifications

Modifications are also proposed to Route 2E. It is proposed that the route no longer use McKinley Avenue. The recommendations are for this route to leave downtown via North Avenue, go east on Emmett Street, north on East Avenue, west on Roosevelt Avenue and then continue south on North Avenue to Kellogg Community College and Battle Creek Health Systems. There is currently very little boarding activity along McKinley Avenue. The route would no longer go north of Roosevelt Avenue. There currently exists some passenger activity near the intersection of Eaton Street and East Avenue, but it is generally limited to the time periods in which the Route 4N does not service the shopping center and housing at the northern most point on the route. Thus, if route 4N were improved, riders would no longer use this portion of 2E. Service will be maintained to the Technology Center and the routes major generators, Battle Creek Health Systems and Kellogg Community College. The routing modifications will add service to Southwest Regional Rehabilitation Center located on Roosevelt Avenue. Also, as noted above, this route will be interlined with 1W – West Michigan. Both routes will have running times of approximately 30 minutes, but will only have one round-trip per hour. Route 2E is currently interlined with Route 4N.

Interline 3E – Main-Post and 3W – Kendall-Goodale

There are no routing or headway changes for these two routes. Given the changes to other routes, they can now be conveniently interlined, eliminating transfers between the two routes. Given that there is a high level of existing transfer activity between these two routes, this should eliminate the need for more than 50 passengers a day to transfer from one bus to another. Routes 3E and 3W are the highest two ridership routes in the system.

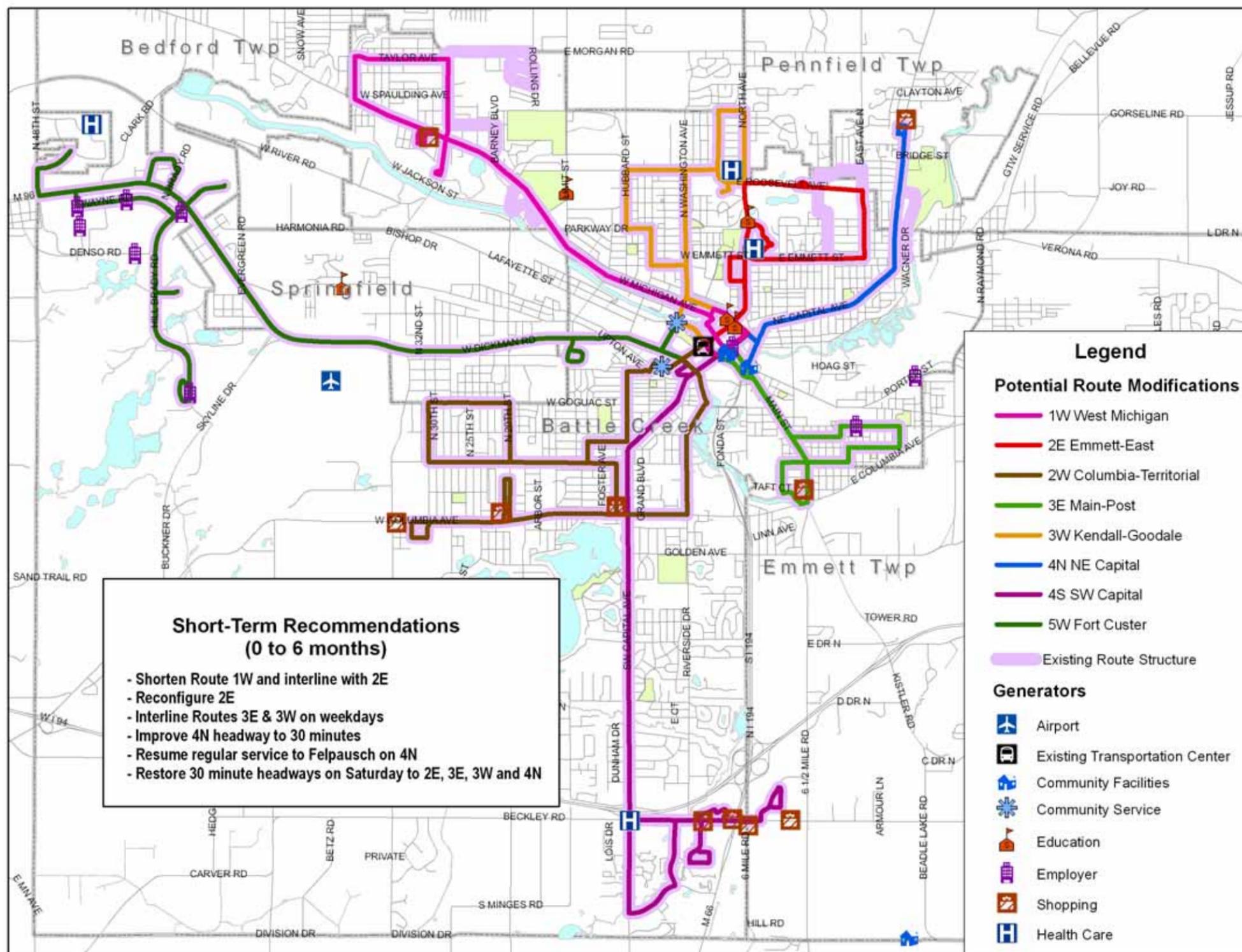
4N – NE Capital Routing Improvements

Route 4N, currently only serves the Northeast Capital Felpausch Store and Crown Chase Apartments five times during weekdays and four times on Saturday. It is recommended that all trips be extended to the end of the line. The route would remain a 30-minute route and operate two round trips hourly. In doing so, the portion of the route on Wagner Drive would be eliminated. By serving the Felpausch and Crown Chase Apartments every trip, it will eliminate riders using the northeast most stop on Route 2E as a substitute for 4N.

Restore 30-minute Saturday Headways

It is recommended that 30-minute headways be restored to Routes 2E, 3E, 3W and 4N on Saturday. The three routes all have round trip running times of slightly less than 30 minutes.

Figure 9-1
Short-term Recommendations



Source: The Corradino Group, Inc.

Medium-term Recommendations (6 months to 2 years)

During the 6 months to 2 years time period, it is proposed that Route 4S be reconfigured, a circulator be added along Beckley Road, a connection to the new casino be developed and a study of circulators for the downtown and Fort Custer be conducted as well as evaluation of regional service to Kalamazoo and Marshall and the evaluation of expanding evening van service (Figure 9-2). During this time period it is also assumed that the main downtown transfer facility will have to be relocated.

2W – Columbia-Territorial Inbound Realignment

Recommended modifications for Route 2W are minimal. Service will be maintained to Columbia Plaza and the Meijer Store, the two most frequented destinations on this route. It is proposed that the inbound portion of this route be modified to maintain service on Capital Avenue that will be eliminated due to changes on another route. Rather than proceeding toward downtown on Riverside Drive, it is proposed that the route use Capital Avenue inbound. Changes to Route 4S-SW Capital will eliminate service on Capital Avenue; the modified Route 2W inbound service will maintain service on Capital Avenue.

4S – SW Capital Modifications

It is proposed that Route 4S be realigned to reach the mall via I-194 rather than travel between downtown and the mall on Southwest Capital Avenue. This will allow the route to operate more like an express route to the mall. The portion of the route that currently covers the Beckley Road area between Southwest Capital Avenue and the Meijer's store to the east of I-194 will be eliminated and replaced with a circulator service. In addition, a super stop will be developed at or near the mall to facility transfers between the regular fixed routes and the circulator service. A more detailed discussion of the Beckley Road Circulator and the super stop follows.

Beckley Road Circulator

The Beckley Road Circulator will replace the portion of Route 4S that operates along Beckley Road. It will be somewhat expanded to include the commercial and health care facilities along Beckley Road west of Southwest Capital Avenue. It will also include the previously served area on Southwest Capital Avenue south of Beckley Road to Glen Cross Road and north on Minges Creek Place. There are two larger apartment complexes in this area that will need service. In addition, it will serve the commercial concerns along Southwest Capital Avenue just north of Beckley Road.

Serving the Beckley Road corridor with a regular route has become increasingly difficult with the congestion associated with the densely developed retail corridor. The circulator will allow for service with a smaller vehicle that can more easily negotiate the numerous curb cuts and circuitous assess routes between the major destinations. The Beckley Road corridor has become too large of an area with too many destinations to serve as part of a route that then must connect with downtown.

Beckley Road Super Stop

It is recommended that a super stop be developed along Beckley Road as a location where Route 4S can connect with the Beckley Road Circulator. At this location would be shelter for the passengers and also perhaps some passenger amenities. A potential location for the Super Stop is Lakeview Square Mall.

The super stop could also play a role in the potential service to the new casino. Given that the casino is located in Emmett Township, off I-94, a boarding location with good access to I-94 would be ideal. This location could also be used in the event a regional connection between Battle Creek and Marshall is developed.

Potential Service to Casino

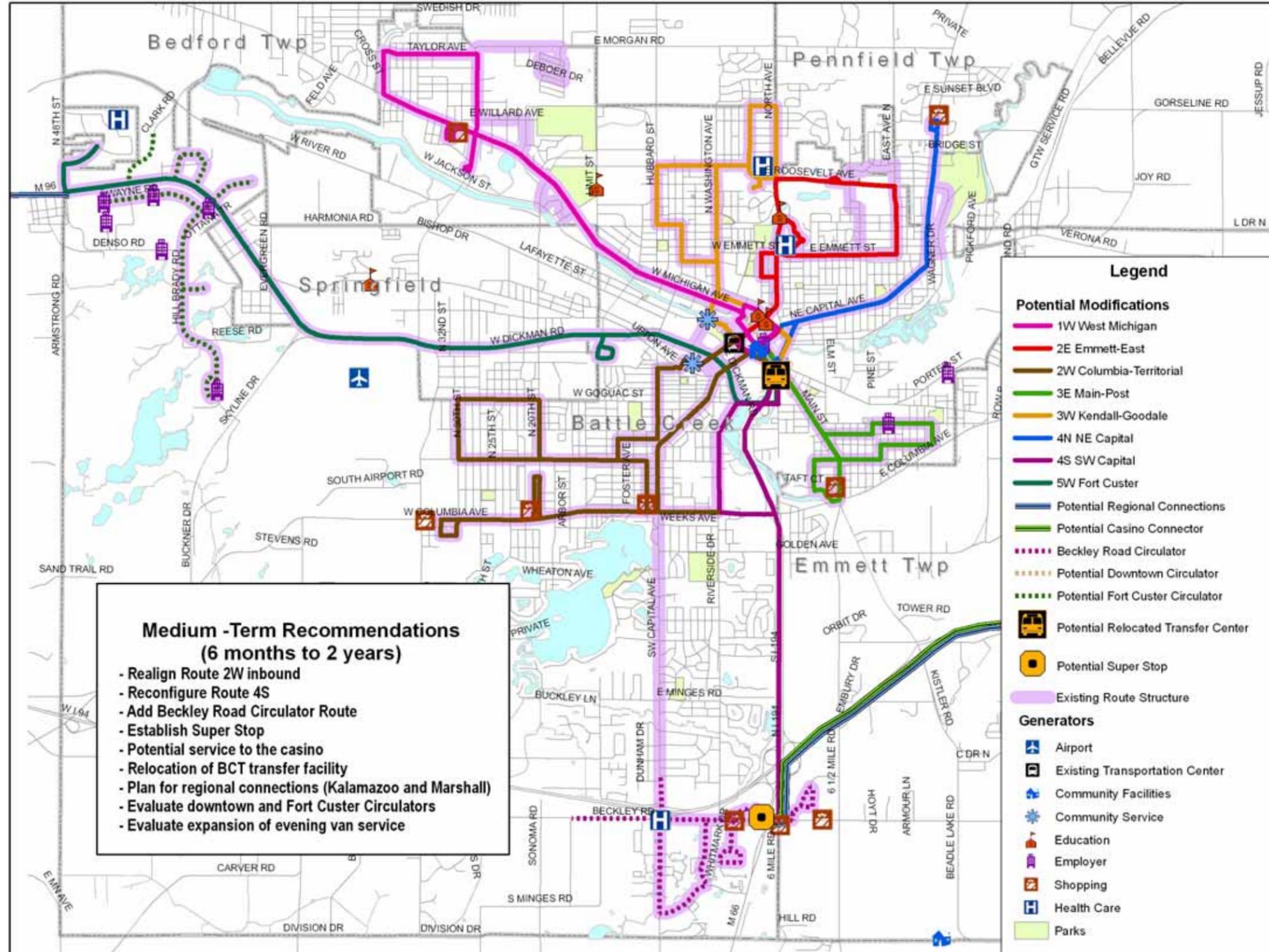
The FireKeepers Casino has a projected opening of summer 2009. The facility is being constructed off I-94 at exit 104, between Battle Creek and Marshall. According to published reports, the casino will include 2,500 slot machines, 90 table games and 20 poker tables. Included on-site in the development will be five restaurants. Employment recruiting materials indicate that they will be hiring 340 card dealers, 50 slot attendants, 500 food and beverage workers, 85 security workers, 34 marketing professionals and a host of other personnel for secretarial, human resources, warehousing, and maintenance and retail positions. Not only will there be a need to get casino patrons to the facility, but potentially 1,000 workers will drive or need to find some other means to work at the casino. A large portion of the workforce will likely come from Battle Creek.

Implementing a super stop along Beckley Road, in close proximity to I-94, would create a good location from which service to and from the Casino could connect to the BCT route system. In addition, given that the initial casino development will not include hotel facilities, it could provide casino patrons that are staying in Battle Creek are hotels along Beckley Road, a means of transportation to and from the casino.

Plan for Regional Connections

Logical regional connections for BCT are Kalamazoo to the west and Marshall to the east. To the west, Route 5W – Fort Custer currently goes all the way to the county line. To connect with the Kalamazoo bus service, a good transfer point would need to be identified. To connect to the east with the Marshall public transit system, service could take place from the Beckley Road super stop. The service to the casino could be a stop on the way to Marshall. The planning process for regional services would include identifying the level of demand and working with the other two entities to coordinate a point at which the systems could meet and transfer passengers.

Figure 9-2
Medium-term Recommendations



Source: The Corradino Group, Inc.

Relocation of Downtown Transfer Facility

Given access issues on McCamly Street and future downtown redevelopment, it will become necessary to relocate the existing downtown transfer facility. A site in or near downtown is preferred given the radial nature of the route system. One potential site is a location in the vicinity of the 3E – Main-Post Route. The site is bounded by Hamblin Avenue on the North, Fountain Street on the South, I-194 on the west and Jay Street and Main Street on the East. Running through the middle of the site is a short stretch of South Avenue that has been closed to traffic. The site, along with the potential reconfigured routing to access the site, is shown on Figure 9-3.

The site is within walking distance of the City Hall, the Police Department, Calhoun County Justice Center, and Commerce Point-Chamber of Commerce and Visitor and Convention Bureau. It is also just across the street from Monument Park.

This site could easily accommodate a facility similar to the one that currently exists with bus bays around a central island of passenger shelters. It could also accommodate a transfer facility with a structure and additional passenger amenities.

Evaluation of Circulator Services

As part of the medium-term recommendations, it is proposed that additional circulator services be studied and evaluated. Two additional locations for circulators would be at Fort Custer and also in the Downtown area (refer to Figure S-6). The Fort Custer route is a long route that deviates throughout the Industrial Park. Given that the development in the industrial park is not compact, employers are spread across a wide area. In addition, the main generator in the Industrial Park is the VA Hospital. There are other employment locations where riders get on and off the bus, but only a few passengers per day. A circulator operated during shift change hours, using a smaller vehicle and linking up with Route 5W – Fort Custer, might be a more efficient means of getting workers to their various dispersed locations throughout the Industrial Park.

In the downtown area, there are several transportation generators. These include the Transportation Center, McCamly Plaza Hotel, The Rink, Kellogg Arena, Full Blast and then those on the other side of downtown such as City Hall, Commerce Pointe and potentially, a relocated BCT transfer facility. A downtown circulator could distribute downtown employees and visitors throughout the downtown from various parking structures, McCamly Plaza Hotel, public buildings, entertainment venues and the BCT transfer facility.

Thus, it will be important to evaluate the need for these circulator services during the medium-term. If these services are determined feasible, they will be implemented in the long-term.

Evaluation of Expanded Evening Van Service

BCT currently offers evening dial-a-ride van service, Monday through Friday, from 6:00 p.m. to 11:30 p.m. The primary purpose of the service is to get people to work and provide service to those who need to shop in the evening hours. A 24-hour advance reservation is required. The fare is \$5 per one-way trip.

This service is currently in high demand. This combined with the fact that during the onboard survey, many people needed transportation later than the hours that BCT currently operates; make it an ideal time to look at some type of BCT evening service. Providing expanded evening van service would be less costly than the alternative of operating the fixed routes a few additional evening hours. Expanding the evening van service would require only additional evening drivers, given that existing vehicles could be used. Another way of providing additional evening service could be through contract with a private transportation service such as the local taxi service

Long-term (2 years or longer)

The long-term plans for BCT consist of implementing services evaluated during the medium-term (Figure 9-4).

Add Circulator Route(s)

If the Fort Custer and/or Downtown Circulator routes are determined to be feasible, they could be implemented in the long-term. This would allow time to acquire the necessary vehicles and add staff as needed.

Add Connections Regional Connections

As with the circulators, if the analysis during the medium-term indicates regional connections are needed and feasible, they can be implemented as long-term recommendations.

Expand Evening Van Service

BCT will have time to analyze the need and feasibility of expanding the evening van service in the medium-term. If demand warrants, and a feasible operating scenario can be developed, expanded evening van service will be implemented in the long-term.

Conclusion

The Battle Creek Transit Planning Study has reaffirmed that the BCT system, as it exists today, is basically sound. The radial structure of the route system is still appropriate and should remain. Modifications can and should be made to specific routes to improve productivity. Frequencies should also be improved in key corridors and circulator service added to improve connectivity and levels of service in certain areas. Consideration should also be given to expanding the daily hours of service through the expansion of evening van service and BCT should explore regional connections with neighboring systems.

Appendix A

Survey Comments

Comments
15 minute intervals for pickups if not already in effect. Last time I rode the bus, it was 30-minute intervals.
6 to 12 at night to take you to work and back.
After 6 o'clock service, even if reduced.
After hours transit to Fort Custer. I work 2nd shift and don't get out of work until 1:00 - 2:30 a.m.
As a child riding the B.C. buses/a high schooler/KCC student and young mother riding with our oldest child, the Battle Creek buses were great. Very clean, went everywhere, and such nice drivers. Always felt very safe. Now, I just don't know how they really are.
As gas prices go up, public transportation should be increasingly attractive to more people. Regularly scheduled routes should work. Maybe gas needs to hit \$7-8 before Americans can face the reality of the value of public transport. Seniors on limited incomes especially will appreciate buses. Buses with bike racks will appeal to younger people.
Be sure to get input from transportation providers like Michigan Works! - JET program and CAA
Better buses and go to Walmart.
Better located bus stops for assisted living facilities.
Better, timely service. Longer hours. Better use of the Handivan service. The buses can accommodate 5-6 people easily. Pack the buses = more revenue.
Bus leaving transit center going up Cap. S.W. route on way back - go down Riverside Dr. to Columbia Ave. back to Cap S.W. - to transit center.
Bus routes need to go down Raymond Rd. and some streets near Raymond Rd.
Buses can become overcrowded which means too many people standing in aisles, too many to a seat, hard time getting on/off. I think it's unfair that the DMV look at drivers without seatbelts/car seats, etc., but buses don't follow these same rules and have more safety concerns. The same for school buses.
Buses look like rolling advertising signs, not all look good. I hope people can see out.
Buses should go further north and south if the demand is the OK but if not OK.
Buses with alternative power sources - electric or other to compensate for high fuel costs.
Can't think of one. Thank you.
Citizen may live in Battle Creek. but their employer is located in Marshall or Kalamazoo. For those without their own transportation, it can be challenging to get to work. If Marshall, Kalamazoo, and Battle Creek were to pull together, it will serve the elderly, the disabled, and those citizens who do not own a vehicle. Thank you for considering this suggestion!
Clean
Clean and a lot of bright colors, fresh air for everyone's comfort on the bus.
Cleaner & more modernized equipment.
Cover transportation to 11 Mile Road and Mich. For over 600 new jobs coming with bus stops at Wattles Rd & Pine Knoll Apt. & Mich. & Raymond Rd.
Definitely dial-a-ride service, please!
Direct routes from one area to another.
Discounts or coupons to get people just to try riding the bus. A lot of people just would need to try it and maybe they would use it more.
Does not matter.
Don't have enough information regarding current ridership to have an opinion.
Early evening service 7 p.m. - 9 p.m. +.
Easy - dependable - affordable
Easy rides (bumps). Most drivers are helpful, better explain actions of stops and changes, transfers, any special rules while on the bus. Driver able to control some of the passengers' manners and language.
Elderly need transportation.
Emission-less bus recently considered by city, a good idea, but currently cost is too much.

Comments
Especially with gas and food costs rising almost on a daily basis, it will become more and more important to have public transportation.
Expand the system.
Free for 55 years or older.
Go down 6-1/2 Mile Road.
Go more places.
Have bus stop in outlying areas to bring workers into the city.
Have not ridden a bus in B.C. since 1954-55. I tried once two years ago and found I had missed the last one for the day.
Have regular door-to-door runs for elderly or handicapped people.
Heated downtown bus shelters; covered shelters at more bus stops.
Hire me -- I need a full-time job!
Hours of operation - early enough in morning and late enough at night to accommodate workers with other than 8 to 5 jobs. 6 a.m. to midnight should cover all possibilities.
How can we afford additional funding when we cannot afford to stay in our homes, feed our families & buy fuel? More handicap accessible transportation always available.
I am legally blind. I cannot afford an increase. As it is, most times I didn't find the BCT sign and the buses keep going. Other time, I know I am in the right spot and the bus still keeps going. Can't afford cabs, and they don't offer car seats. Can't take one with me, no place to put it when going shopping.
I appreciate the bus service and also the tele-transit service.
I feel bad that you do not provide shelter at your bus stops for people who do use public transportation.
I feel public transit in BC should be geared toward getting the elderly to appointment and shopping and for those who need transportation to work.
I feel that if our transit goes into a township or other city, they need to pay for the service, unless we are getting Fed money for running through routes.
I feel that the transit is very important to all people because the price of gas and to older people that can't pay the high cost. Thank you.
I haven't been on a bus in years. I'm not sure the bus comes around here, but if it does, I certainly would consider taking it to work if gas prices keep going up.
I know it has been in debt for at least 20 years. I cannot find a solution. Some people <i>need</i> the bus.
I know it is difficult, and hope you can maintain as good as possible system organized around questions 5 and 6.
I live in Lakeview, Stonejug area - need bus route in this area to the VAMC.
I lived in San Francisco for 2 decades & I don't think B.C. transit could or would live up to my expectations. I would use to save gas, but bus only comes to Crown Chase 2 or 4 times a day. It's not convenient for a quick trip out and back. Once a ride is missed, it's an hour wait on most routes.
I need more information.
I see more areas around town & in the outlying areas using public transportation. Earlier hours - later hours!
I think it costs too much for no more people that ride the bus. Best to support taxi cabs, less taxes.
I think it does well! Maybe more stops in the Fort Custer area at work places for people, and earlier times when Fort people need it.
I think it is a great idea for Battle Creek, particularly, if gas prices keep going up.
I think it is important to have service for people who need it. I used to use bus service.
I think public transportation should be downsized and less tax money used on it.
I would be happy to use public transit if they started earlier for employment purposes.
I would hope that we would have Sunday pick up, for the people that work over weekend.

Comments
I would not use public transit without carrying my pistol (with my permit) of course! Don't trust young people like I did in the 1960s and 1970s.
If more money is needed, then increase the fares. Major employers should have service before and after all shift changes (cereal companies, Federal Center, the industrial park, etc.)
If the bus would go by there stop every 1/2 hour again that would be nice.
If this questionnaire is just a way to get more money, shame on you. If it's not going to be more economical for people who can't afford high gas prices to ride the bus, where's the difference. Unless people with money pay the extra tax.
If you actually had BC transit available, either regularly or on call, at a reasonable cost, we might be interested.
I'm happy I can hop on the bus right in front of the building I live in and come back right in front of the building. There is one bus I've been in a few times. The white bus called the senior bus has comfy seats in blue and you have to step up a step or so. It's comfy and nice, real nice.
I'm retired.
Improvements, if done efficiently, should not require additional funding.
In order for public transit to work, you must serve businesses/recreation/shopping, etc.
Increased taxes would defeat the purpose of us needed to use the service.
It has been many years since I was on a BC bus, but I remember that it was not as clean as other cities I had tried.
It is good for those who live in the city if they don't drive.
It is important to have the transportation available for those unable to drive, today and in the future.
It runs pretty good now.
It should be easy to use with regular routes and lots of pickup times.
It should provide more service around the Battle Creek metro area and Springfield.
It would be helpful to work with schools - get students to be familiar with routes and how to use system. Ingrain in our consciousness earlier.
It would have to be dependable and convenient. We have driven for so many years. Have lived in BC area (Pennfield) for 37 years and have never had to depend on public transportation (yet!).
It's good now, it can get along better.
I've heard that the buses are dirty inside and smell bad. I once thought of going to downtown Battle Creek (Full Blast) with the kids until I heard of the bus conditions from several people who have ridden them.
Keep handi-van for transporting disabled.
Longer hours - evenings and Sundays.
Longer running hours.
Make info available, routes, schedules, etc.
Make schedules more accessible.
Make the system more accepted for seniors.
Many people who work at Federal Center would ride if didn't have to transfer - direct rides.
Maybe the "cost" for fare should be heavily marketed. Is train service to Fort Custer and/or Kalamazoo on the horizon?
More availability to ride. More vehicles and drivers.
More eco friendly/artistic. Yes on Question 12 if it was to expand further range of routes.
More lighted, heated shelters at bus stops.
More routes.
More stops.
Must be dependable. Must be cost effective for customer.
My dad has used the van that takes him to dialysis - very nice service.

Comments
N/A
Need a good consistent bus route for the Fort Custer area. Many workers can't afford to drive to work.
Need bus route down all of 20th St.
Need more buses, longer Saturday runs. Buses need to run more often. Every 1/2 hour service.
Need to think of needs for evening/night service.
New buses, propane gas
No, because I may not be living, by then. I would take the bus - if I didn't work so far out.
No, but I know we did a system for the poor, the elderly who can't drive, students, the working poor who can't afford a car, etc.
No, not really.
No, thank you.
No. Good luck!
No. My husband used to take the bus when we were both working. One car. Retired. He stated he enjoyed it.
Not at this time. Funds should come from another source in conjunction with what tax payers already pay!
Not really, except for a rare taxi ride - I've never used a bus - I don't know how to use them. Also, they could use a change machine and not use exact change.
Our system looks like the spokes of a wheel! Let's put a rim on it!
People who use it should pay for it, not local taxes.
Poorly managed - no bid contracts; poor business, poor record keeping.
Publicize a lot what is available - so know of options and better able to identify additional needs.
Questions 10 & 11 are none of your business. I'm not qualified to take this survey as I've never used nor never needed to use public transportation in the Battle Creek area.
Raise the fee for the buses, do not do away with the transit as many people would like to pay more for a ride rather than it going away.
Reasonable for low income fixed income people. We wouldn't need constant tax increases if city workers did their job. We see them driving all over town doing nothing!
Reduced fares for seniors
Routes need to be at least every 15 minutes to be useful for work or school. If the system were good enough, we would not need separate school buses and it would bring business back to downtown. I have talked with co-workers at Denso who have also wished buses were good enough for getting to work. Better public transportation would be one of the best helps for poorer families.
Run longer, maybe subway/above ground transit for around city and out to Beckley Rd.
Run smaller bus.
Safe, affordable and reliable.
Self-funding system.
Seniors could use more individualized service as doctor appointments don't happen on a set schedule. I like the taxi idea. What about a volunteer driver program for seniors?
Seniors need van service to doctors and shopping.
Serve all people and their needs.
Service to outlying areas.
Set the transit system up for the people who really need it.
Seven day operation to at least accommodate churchgoers, mall ser. hr., cross town service, at least 10 trips a day?
Shorter (less seats) buses. Clear windows (not tinted). Pool residents that ride and route according to their location/density throughout the city.
Should be a public safety officer on duty on the bus for the purpose of safety.

Comments
Should be more accessible to all citizens and make fares so people will use buses. 24-hour service would be nice for those who don't work 9 to 5.
Should be the transportation of tomorrow, with the gas prices, but with the gas prices, cost of buses and upkeep, I can only say good luck.
Should have got all buses fixed in first place. You bought new buses. Cut routes for what. It wasn't the people's fault. Should run 7 days a week. Somebody is getting money.
Should have never gotten rid of the trolley car system.
Smaller buses, "green"!
Smaller, more economy and more flexible.
Solicit funds for public transportation for a short time to get to and from work or school. Can be purchased/phone or wherever.
Some elderly or handicapped are not able to get up into a regular bus and may not have the finances to pay for the curb-to-curb service.
Still drive to visit friends & family, am in 1 block of stores (grocery, Dollar Store). May switch to bus in winter (snow & ice) or because of gas prices or age of my car and cost of upkeep and insurance of same.
Stop spending money on stupid surveys.
Suggest a hybrid system; regular bus routes at specific times for people to get to work; dial-a-ride type service for shopping; individual taxi-type rides for "seniors."
Sunday scheduling
Taxes are too high now.
The bus service is good in Battle Creek and as I have no car, I depend on it. Buses are clean and very seldom late. Battle Creek bus drivers are helpful and deserve a big "thank you."
The buses look ugly with all the advertisements on them. But it is nice to see the bike racks on front like they are in Ann Arbor.
The curb-to-curb dial-a-ride is a great idea for the future.
The drivers need to drive a lot safer. Watch the use of 4-way caution lights, take refresher driving class.
The hours and routes of the B/C transit not convenient for the general population; need change on that particularly.
The people that need access to public transportation should have it as easily and affordably as possible.
The people who use the bus line are looked upon as a lower class of people. This is not a big city.
The schools are school of choice need a bus to go only to the school and back, Springfield to Lakeview, etc.
The time bus run should be every half hour on weekends instead of every hour (Fort Custer route).
There should be 4 pick up areas N.W.E. & S. with parking lots. Routes to cover commercial and personal service areas plus employment centers. Folks drive to one of the pickup areas, select a bus that will provide for their needs and return to the lot and to their residence. This way, you serve both the inner city as well as the outlying folks.
There should be a shuttle system between Kalamazoo & BC. If you polled people in these two cities, you would see how many commute. If you offered a shuttle service and had a monthly fee, I think lots of people would take advantage of this. I'm sure that BC and Kalamazoo could share the costs. Big cities do this every day.
There should be weekend mall transportation until mall closes.
They should look like a bus, not a traveling billboard.
Think they should go back to some routes in order that people working late can get home and go farther on regular route on E. Columbia.
Three shifts for work jobs.
Train systems - not buses! Automated systems that are never late.
Transit is a must in our community. If we view our city w/out transit as an option, we have failed.
Transportation by vans at night, too, could prevent drinking and driving problems in our community.

Comments
Trolley cars.
Twenty years ago, I suggested smaller buses, taking less gas and less pollution and was totally ignored.
Uplift ban to go to these areas - have buses go to Wal-Mart store area, to Walgreen's store, Kohl's store, Mernard's, Meijer's store - Beckley Rd. area. Change the Saturday's schedule - earlier 8:15 AM - start, no 1/2 breaks and 1 hr. lunchtime, in between. Have it like Monday-Friday time schedule. Have Battle Creek Transit tickets bus available/not out/sometime.
Use biofuels or some other renewable fuels. System probably needs total overhaul.
Use more energy efficient, eco-friendly buses/vans.
Use smaller bus vehicles during the peak times of day. Save the big ones for peak times and school deliveries.
Van to airports. Capital Ave. to junior and senior high schools; so many trips for sporting and musical events when our children were growing up.
Vehicles provided by the city with funds from MDOT then maintained and operated by volunteers for tax credit on property taxes. Volunteer opportunities would be for 4 hours a month and encourage ownership, community interaction, and a sense of civic responsibility. This kind of forward thinking is becoming vital in this day and age!
Wal-Mart again regularly.
Warm weather waiting area with cameras everywhere.
We live on E. Kirby Road and the bus doesn't come out here and we have a car - so aren't interested in it.
We maintain a car - we buy gas, car tags and insurance. Enough is enough in taxes! Let the people who use the bus pay for it. Even at \$3.00 a ride, it is still cheaper than a gallon of gas or a taxi ride. No more taxes!
We need a bus schedule listed in the newspaper or shopper to tell us the times we will be able to use the bus.
We want bus service back in Springfield.
We would need a stop at least at the end of our street (Colorado St.) so that we would not have to drive to a stop in order to ride.
Well, the buses already accommodate handicapped and bicycle riders. But, if there were more buses and more routes and most important, later service, even 24-hour service, more people would want to go to work and be able to get to work, and more people would use their cars less (the people who have cars). So, less people on Medicaid and more jobs to run more buses and other businesses would have coverage on later shifts and they wouldn't have to pay temp services their fees.
When deciding to move to B.C. 10 years ago, the fact that there was a bus system was a deciding factor. While I do not use the bus on a regular basis, I know it is an option for me when needed. It would also be good to have "inter-urban" buses that could go to Marshall, B.C., Galesburg, Kalamazoo, etc. for a reasonable price.
Why not go to smaller bus size? I seldom see a bus with more than just a handful of riders. Years ago, Bay City, MI had commuter buses that were VW vans!
Would like to see a Sunday schedule.
Would use it now if it went where I needed to go.
You do not serve the outlying area in which we live.
You're "right on" to re-think and re-define the concept of public transportation. The traditional "downtown" focus is no longer really in play.
You're doing just fine. Keep it up!!

Appendix B

Public and Stakeholder Outreach

**April 22 and 23, 2008
Focus Group Meeting Notes**

BATTLE CREEK TRANSIT PLANNING STUDY

SUMMARY OF FOCUS GROUP MEETINGS

APRIL 22 & 23, 2008

SOCIAL SERVICES FOCUS GROUP – April 22, 2008 – 10:00 a.m. at Toeller Building, Department of Human Services.

Representatives from area Nursing Homes indicated that kidney dialysis treatments are being scheduled at 5:45 in the morning. An individual receiving treatment will be scheduled three (3) times per week. Approximately 10 patients receiving treatment are coming from nursing homes. In the near future, dialysis service maybe scheduled after hours until 3:00 a.m. three days a week (Monday, Wednesday and Friday), due to the high demand for dialysis treatments. A request was made to expand the pick up and drop off window fifteen minutes (15 min) to provide dialysis patients more flexibility in meeting the bus and avoid having to wait for another bus to be dispatched.

Representatives from Goodwill Industries noted the 7.6% unemployment figure for the Battle Creek area. It was indicated that Detroit is the only city in Michigan with a higher level of unemployment then Battle Creek. After hours service is not available and cut backs in transit service have impacted the ability to get people to jobs at the mall and Fort Custer. Twenty –four (24) hour service is desired. It was noted that approximately 1,200 new jobs will be created when the new casino, which is within the Battle Creek urbanized area, opens in 2009. Further it was noted that hospitals are also a major employer. Most people with entry-level jobs are working the third shift for \$7.15 per hours and those people cannot afford to buy or own a car. The loss of transit service often also means the loss of a job for the individuals who are unable to find other ways to get to work.

The Work First program has its own vans and is using the vans and cabs to get people to work and childcare for up to maximum of 180 days. Work First vans are operating twenty –four (24) hours per day.

SENIOR CITIZENS / PERSONS WITH DISABILITIES FOCUS GROUP – April 22, 2008 – 2:00 p.m. at Battle Creek Department of Public Works. (This meeting was taped)

A variety of services needs and issues were identified, including: the need for service to Pennfield and Bedford Townships and the City of Springfield. It was noted that a new Wal-Mart store is planned for Pennfield Township. The hours of service and especially service to Fort Custer should be improved. Seniors report they can experience time delays for getting to doctors appointments, when traveling on the bus. Lakeview Meadows senior center route was eliminated. Nighttime service with trips to the mall is desired along with extended hours for recreational programs. It was suggested that this night services might be seasonal or tied to specific recreational activities. More frequent stops

and the ability to stop for a disabled person is required. It was suggested that buses be routed to travel through residential areas.

For most folks the twenty-four (24) hour reservation system works. Waiting out doors for the bus in the cold of the winter and the heat of the summer is the most difficult part of using the bus system.

Training provided by Battle Creek Transit for the visually impaired students is good and should continue. It was noted that Jerry Hutchison does a good job. Concerns were expressed about how visually impaired riders get information about bus service and also how the bus wraps (advertising) might further hinder the limited sight of the visually impaired bus rider. A need for brail signs at the transfer center for buses was identified. It was suggested that bus signs, colors and logos might be used to better let people know what buses to get on.

It was noted that there is limited service to retail stores on Beckley Rd and some of the retail establishments won't let buses stop at their locations, creating a problem for individuals with disabilities.

CALTrans –God's Taxi provides free service to individuals below the poverty level. They transport individuals to Grand Rapids and Ann Arbor and within the City of Battle Creek. Questions were raised about Battle Creek Transit being compliant with the American with Disabilities Act (ADA) requirements. It was suggested that a millage needs to be pursued along with an authority. Better coordination of service is required. There is not a coordination or consolidation plan that folks can use to schedule service.

The need to modify bus-waiting time beyond 15 minutes at nursing homes was identified as a need. It was suggested that Battle Creek work closer with nursing homes to coordinate service and that service be shifted from one-hour headways to thirty (30) minute headways.

Some ideas discussed at this meeting included: subsidizing after hours taxi service, and the need for a different mix of vehicles including small vans and sedans. It was noted that going to the Transfer Center to transfer to a different route is a burden for some traveler. In the past, there were other transfer points besides the downtown Transfer Center. It was suggested that monthly transit passes be provided for individuals with low incomes. It was noted that some folks view riding on Tele-Transit as a stigma. The use of bike racks on buses should continue.

EDUCATION FOCUS GROUP MEETING – April 22, 2008 – 4:00 p.m. at Battle Creek Department of Public Works Building.

Kellogg Community College (KCC) student use the transit system. The timeliness of the service is an issue, especially since the last classes ending at 10:00 p.m. There are areas in the county where KCC student live that are not served by transit. Parking at KCC is an issue that must be addressed. It was suggested that transit could help solve the parking

problem. People in multi dwellings and those located east of KCC need service, due to the service cuts in 2006.

The Binder Park Zoo (the Zoo) supports Battle Creek Transit. The Zoo provides free passes to individuals with low incomes so they can visit the Zoo, however there is no transit route that services the Zoo. The representative from the Zoo indicated that the Zoo is the largest seasonal employer in the area. The Zoo is a private non-profit organization.

Lakeview School District is a separate school district, which is fourteen (14) square miles in size. School of Choice legislation has changed how the school district operates and as a result Lakeview School is now receiving student from Battle Creek. The School of Choice legislation does not allow school bussing service to be provided to student of choice. Therefore only student with transportation are able to attend Lakeview School. A challenge is getting student home when school lets out at 2:55 p.m. Currently about 36 students are waiting on campus until the 3:50 Battle Creek Transit bus arrives. The Lakeview School would like a stop closer to the school building (not at the Meijers Store) and a bus scheduled closer to the time school lets out. It was recognized that the bus use by students will vary based upon after school activities. Jerry Hutchison reported that approximately fifteen (15) percent of the existing rideship is students.

The Burmese population in the area is expanding due to sponsorships by the church community. Battle Creek Transit does not provide non –English schedules to individuals who do not read English.

DRIVERS FOCUS GROUP - April 22, 2008 – 7:00 p.m. at Battle Creek Transit Office.

Fairlane is the cheapest apartment complex in the City of Springfield and it is not getting transit service due to the cuts in service. Prior to the cuts, service was good. Likewise there are a lot of areas on Michigan Ave that are no longer being served. The location of bus stops in the M-66 / Beckley Rd area (near Meijers) has the buses traveling past the place where they used to stop prior to the cuts.

Commissioners who make the decisions to cut the service do not ride the buses and don't know the system.

People are being forced to get off the bus on various routes and walk a number of blocks to catch a bus on a different route due to the lack of route interface.

The drivers report that van trips are down from 700 to 300 forcing more wheel chair users on the larger buses. The drivers are spending more time securing wheel chairs on the larger buses, which impacts the schedule. Also people are getting larger. The drives feel they need training to deal with the bigger people and also training on securing of wheel chairs.

Drives would like to stop and pick up people at Brookside when they are continuing to drive past the old stop fourteen (14) times per day. Drives are seeing new passengers due to the increased cost of fuel. Most of the new passengers are going to Fort Custer.

The drivers feel the biggest issues facing Battle Creek Transit are: financial, leadership and the commission. Other issues / recommendations presented by the drivers included:

1. Lack of service on the south side of town after 5:15 p.m.
2. Doctors are moving south of Beckley Rd. There is very little bus service to that area.
3. Transfer are not allowed except at the downtown Transit Center and the drives suggest changing this situation
4. The Northeast Capital route should have 30-minute headways.
5. The Michigan Ave route should go further east.
6. KPAP (a half way house for prisoners) wants the drives to sign-off for being late. The drivers object.
7. Drivers would like the Post route adjusted at allow them to use one of the downtown bridges to avoid road construction.
8. More education is required for the Commissioners. People who need service can't get to Commissions meeting in the evening due to lack of after hours service.

NURSING CARE & RETIREMENT FACILITIES FOCUS GROUP – April 23, 2008 – 9:00 a.m. at Marian Burch Adult Day Care & Rehabilitation Center.

The Laurel get 90% of their clients from services scheduled through Battle Creek Transit. The 15-minute rule is a problem. (The 15-minute rule means a bus can pick up a person up to 15 minutes before or up to 15 minutes after their designated pick up time. This 15 / 30 minute window is due to the scheduling software and is impacted by the location of the bus prior to the designated pick up. Appointments start at 9:00 a.m. there are 117 residents at the facility. Approximately 10 trips per day are scheduled, mostly for kidney dialysis treatments. "Life Care" is utilized for trips Battle Creek Transit cannot provide. Due to scheduling a person can experience a long wait for a bus after dialysis treatment.

The Marian Burch facility has nine (9) buses that sit idle during the day. It was suggested that there maybe an opportunity for the Marian Burch facility and Battle Creek Transit to share this vehicle resource during the idle time, perhaps under a pilot program. The Marian Burch buses provide service over the total county. They pick up about 90% of their clients and bring them to the center Monday through Friday. Pick up starts at 7:30 and at 3:30 they start of drop off service. Approximately 50 people are transported per day on six of the nine buses.

Bedford Manor is a facility for individuals sixty-two (62) and older with low incomes. They scheduled medical and group trips through Battle Creek Transit. There is not enough transportation for seniors and elderly. The cost of fuel is driving seniors to use transit. Seniors prefer the vans because they don't have to transfer and the vans can go to Wal-Mart and the large buses do not.

MEDICAL FOCUS GROUP – April 23, 2008 – 11:00 a.m. at Southwest Regional Rehabilitation Center.

Southwest Regional Rehabilitation Center (SWRRC) has 26 beds. Physical therapist candidates, who do not drive, work at SWRRC. These individuals are limited to where they can live due to the lack of transit. Their work hours are from 9 a.m. to 5 p.m. An individual wishing to live or go south cannot use transit because the last bus from the downtown Transfer Center heading south on Beckley Rd leaves the center at 4:45. The SWRRC has four vans that pick up folks in the city of Battle Creek and in Marshall and Albion. They operate the vans to meet the schedules of the physical therapist and other staff needs. If the vans are not on time it can impact a physical therapist and clients schedule for the rest of the day. Battle Creek Transit does not provide regular route service to this facility. SWRRC officials were not aware of the Tele-Transit service.

Life Care Ambulance provides wheel chair services beyond the Tele-Transit service as well as regular ambulance service. They provide wheel chair service county wide and outside of the county. They have four (4) wheel chair vans that operate 7 a.m. to 8 p.m. Monday through Friday and one (1) van is used for Saturday service. Their representative indicated that they are always looking for ways to coordinate service.

The inability to transfer except at the downtown Transit Center is a problem for many people. According to Jerry Hutchinson 39% of the trips on the existing system are transfers.

GOVERNMENT FOCUS GROUP -April 23, 2008 - 2:30 p.m. at Springfield City Hall.

The MDOT representative indicated that transit is needed more then ever.

There has not been great deal of concern expressed over the transit cuts that took place except for the Michigan Ave route. Tele-Transit is in demand. Emmett Township does not have high-density zoning and the home prices in this township are in the \$250,000 range. The folks living in Emmett Township don't ride transit.

The Battle Creek Commissioner indicated that using the hub and spoke system takes to long so he does not use the bus. Also the bus system can impact your life style, such as limiting your opportunity to go home for lunch.

Low income and elderly are seen as the focus of the transit system. Marketing is required to let folks know about the service. The key areas that need service are the high-density areas. Pennfield had limited service before the cuts. The service does not serve the resident in the township.

The City Commissioner indicated that he is open to sending buses out in to the townships to medical facilities, but not an extensive service.

Springfield did not view the cuts as a big loss to Springfield because most of the folks were going to Battle Creek.

It was suggested that buses be focused on employment trips in the morning hours and be used during the off hours for shopping, etc.

**Meeting Notes:
Presentations to the Public
Transportation Committee**

August 13, 2008

Battle Creek Transit Planning Study Presentation to the Public Transportation Committee (PTC)

Attendees:

Susan Baldwin: Chairperson, Public Transportation Committee

Diane Thompson: Public Transportation Committee

Tony Walker: Public Transportation Committee

Greg Zanotti: City of Battle Creek, Transportation Director

Jerry Hutchison: Battle Creek Transit, Transit Manager

Alison Townsend: The Corradino Group

Larry Strange: The Corradino Group

Phil Kazmierski: Mannik & Smith Group

The meeting started with an introduction by Jerry Hutchison. He provided an overview of the study and events leading up to the study. He emphasized that the focus of the grant program funding the study was innovative and creative transit solutions that resulted in a more efficient public transportation system and also development of a methodology that could be applied to other transit systems.

Following the introduction, a PowerPoint presentation was given that detailed the findings and progress of the study.

Items discussed during the presentation included increasing demand for transit, the current operating characteristics of BCT, Battle Creek area demographics, the onboard survey, the general public survey, route productivity, a peer review of other Michigan Transit systems, and analysis of route transfer activity. Transit service types that would work in Battle Creek were discussed along with the presentation of an Optimal Transit Service scenario developed by the Consultants.

During and following the presentation, there were several questions and comments. They included the following.

- One of the PTC members wanted more information about the peers. How many serve multiple jurisdictions?
 - All of the peers with the exception of Macatawa and Kalamazoo cover multiple jurisdictions.
- Could the Optimal Transit Service Scenario be implemented within or near the current budget?
 - The scenario was not developed with consideration to cost, so the cost of the scenario has not been calculated.

- Some restructuring or reallocation of existing resources could be done to get BCT closer to the Optimal Transit Service Scenario.
 - Also, the Optimal Transit Service Scenario could be phased in over several years, making it more feasible.
 - The final report will contain two sets of recommendations, one will be a more detailed version of the Optimal Transit Service Scenario with modifications if necessary to implement at a budget level consistent with existing levels. Another set of recommendations will include modifications to the existing service to make it more efficient.
- It was also noted that one method of generating additional funding or a stable funding source for public transit would be to establish an authority, rather than operating BCT as a City department.
 - How difficult is it to establish an authority?
 - The process is well defined and detailed in Act 196.
 - Greg Zanotti noted that there may be some additional planning funds available to explore the issue of establishing an authority.
 - Does the population density of the Battle Creek area warrant an authority?
 - Yes. Low density areas, such as that served by the Bay Area Transportation Authority, covering two low-density counties, operates effectively as an authority.
 - What are the next steps in the study?
 - The consultant will come up with some near term recommendations that can be implemented to make the existing system more efficient.
 - The consultant will refine the Optimal Transit Service Scenario with options more consistent with current budget levels.
 - A draft report will be submitted early in the fall.
 - The consultant will also do a fare analysis.

Following the discussion associated with the presentation, BCT staff asked the PTC to consider supporting the reinstatement of transit services to three destinations that were eliminated during the route cuts in 2006. These were the Wal-Mart on Beckley Road, Brookside Apartments in Springfield, and the Felpausch on Northeast Capital.

January 28, 2009

Battle Creek Transit Planning Study Presentation to the Public Transportation Committee (PTC)

Attendees:

Susan Baldwin: Chairperson, Public Transportation Committee

Ryan Hersha: Public Transportation Committee

Diane Thompson: Public Transportation Committee

Tony Walker: Public Transportation Committee

Greg Zanotti: City of Battle Creek, Transportation Director

Jerry Hutchison: Battle Creek Transit, Transit Manager

Alison Townsend: The Corradino Group

Larry Strange: The Corradino Group

Phil Kazmierski: Mannik & Smith Group

Representatives of The Corradino Group, following an introduction by Jerry Hutchison, made a presentation to the Public Transportation Committee (PTC) about the findings and recommendations of the Transit Planning Study conducted for Battle Creek Transit (BCT) over the past year.

Larry Strange of Corradino opened with an overview of the study process and findings, including the following:

- Extensive data collection, surveys, stakeholder meetings, and related activities were conducted as part of the study;
- An operational analysis of the transit system was performed with boarding/alighting and transfer data provided by the city;
- An analysis that involved “wiping the slate clean” was conducted to determine an optimal system for BCT;
- That analysis, which included review of demographics, generators, and other community issues revealed an optimal route structure similar to the route alignment that exists today supported by an expanded Tele-Trans and circulator routes in the Beckley Road and Fort Custer area;
- The optimal system included expanded services at night and 30 minute frequencies on all routes.

Larry noted that following the development of the optimal service scenario workshops were held with BCT staff to determine recommendations and strategies that could be pursued in light of budget realities.

Alison Townsend and Jerry Hutchison then proceeded to review the recommendations. The recommendations were organized in terms of:

- Short term (0 – 6 months)
- Medium term (6 months – 2 years)
- Long term (2 years and beyond)

The recommendations were reviewed with the PTC and the following comments/questions were raised.

- Did the study consider the student population in the apartments south of Beckley Road? Many of them attend the community college and could possibly use transportation. It was stated by the consultant that this population was not specifically considered but that the improvements could be used by this population.
- There was general consensus that the circulator in the Beckley Road area was a good thing.
- The question was raised were there other systems using this kind of circulator. It was stated that many systems have circulators that fulfill a variety of needs. The question was raised that it would be good to have some examples.
- There was discussion about how the consultant arrived at the conclusion that the optimal design was similar to what exists. Larry Strange identified the parameters that were used to reach this conclusion – demographics, population density, location of generators, size of community, etc.

Following the general discussion, Jerry Hutchison identified the next steps, including BCT's proposal to pursue funding from the Jobs Access Reverse Commute (JARC) program to fund the Beckley Road circulator. He noted that presentations would be made with the City Commission and asked whether another presentation with the PTC was desirable. It was agreed that a follow up meeting was in order (to be held February 11).

**January 29, 2009
Public Open House**

- Meeting Notes
- Comment Cards

January 29, 2009

Meeting Notes/Observations

**Battle Creek Transit Planning Study
Public Meeting/Open House
Full Blast Recreation Complex**

Attendees: See attached sign in sheet.

Format

Representatives of The Corradino Group and Jerry Hutchison greeted individuals from the community who came to Full Blast to learn about the Transit Planning Study and the study findings and recommendations. Following is a summary of the comments received.

- Several people who came to the meeting live in the Rolling Hills area of the West Michigan route proposed to be eliminated. They indicated that the bus was their only means of transportation. One person commented that “I ride the bus every day except Sundays and major holidays. The plans will greatly handicap me. But, if I have enough time I can adapt. Maybe on Saturdays I can use the Handy Van to go to Felpausch and buy groceries. There are several options on how I will get around without bus service. But I will get by.”
- The 2W route should be looked at. It takes “forever” to get to Meijers. Also, the 1W West Michigan doesn’t need to go to Bedford Manor after 3:00 p.m. People who live there and ride the bus leave in the morning and return at the latest on the 1:00 p.m. trip.
- A person suggested that if the 4S is removed from Southwest Capital and rerouted on 194 that it would be harder for people to get to the Social Security office and other government offices on Southwest Capital.
- It was suggested that BCT amend the transfer policy to allow non-downtown route to route transfers to increase their flexibility in using the system.
- A person commented that: “I would like the routes to run later. This is my only form of transportation and it would be nice to be able to get to the grocery store in the evenings without having to take time off work. Also, I live in Rolling Hills and the proposed shortening of the route would cause me to have to walk 2.5 miles to the closest bus stop. I know there are others in my community who pick up the bus so I would not be the only one affected.”

- Another person commented that: "I think that the bus should run longer because we have enough people in the city who ride the bus. It will help keep the city running because the bus mainly keeps the city running because the majority of the city rides the bus. The way the economy is today people don't have money for cars. When the bus stops the city stops."

Analysis

The meetings were advertised on the bus and in the media. The biggest issue associated with the recommendations will likely be the shortening of the West Michigan route. The proposal for this shortening was based on the very low ridership in the affected area and the opportunity to reallocate those resources to the 2E which often is overcrowded.

Attendees were advised that none of the recommendations would be put in place without approval from the City Commission and additional public hearings for individual recommendations and service changes.

Battle Creek
Transit Planning Study
Public Open House
Thursday, January 29, 2009
10:00 AM – 1:00 PM

**** Please Print Clearly****

Name	Address	E-mail/Phone
David Moore	Battle Creek 102 Taylor Ave	9644681
Robert Beavo	363 Sparks Dr.	965-5031
Daniel Pattinson	148 E. Mich Ave	Daniel.Pattinson@xalor.com 269-719-6974
Janet Reiffers	Apt. 1349017 1419 NE Capital Bldg #109	Janban2008@msn.com 965-0566
Joan Bailey	100 S. Bedford Rd	
Audrey Caldwell	82 Laura Lane	96-48607
John Rowe	76 South Burdick	986-3588
Paul Dirschell	302 Bridgton	223-4904
Gerry Hammock	115 S. Princeton	—
JAY & MARYBETH WEISS	42 GARDEN AVE	968-5075
Daron Todd	901 Clay St	579-2648
Anthony Brun	148 E. Michigan	N/A
Fred LARNER	80 Riverside Dr. Apt F2, BCP	(269)965-6142

Battle Creek Transit Planning Study COMMENT CARD

Battle Creek Transit is the bus service that provides public transportation in Battle Creek. The system that operates today does so in much the same manner as it has for many years. Battle Creek has changed over the years and now it is time to look at Battle Creek Transit to see if it is meeting the current needs of Battle Creek citizens and can also accommodate future needs.

The Michigan Department of Transportation has provided the City funds to conduct a study to develop a future vision and operating plan for Battle Creek Transit. The focus of the study is to ensure good service to our citizens while generating operating efficiencies through dynamic and creative means.

* * * PLEASE PRINT CLEARLY * * *

Name

[REDACTED] ([REDACTED])

Address

City / Zip

Email

TELL US WHAT YOU THINK.

We want to know what you think are the issues affecting Battle Creek Transit. Do you have any comments on the current recommendations? Anything you have to say is important. Use the space below and on the back.

He lives on Taylor (102 Taylor) and would be impacted by the removal of the UEP Michigan loop. He is concerned that the bus system is oriented to big business. Also, he wants to comment that it is not fair that transships don't support.

Battle Creek Transit Planning Study COMMENT CARD

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• • • PLEASE PRINT CLEARLY • • •

Name [REDACTED]

Address [REDACTED]

City / Zip [REDACTED]

Email [REDACTED]

TELL US WHAT YOU THINK.

We want to know what you think are the issues affecting Battle Creek Transit. Do you have any comments on the current recommendations? Anything you have to say is important. Use the space below and on the back.

Take more look at ZW. The route take so long to get to Meijers. The backdoor along Gaselet is new. Why not go to Meijer Plaza.

They don't need to come at 3:00 pm on Bedford Manor. Most people leave Bedford Manor at 12:10 and come back at 12:21.

Battle Creek Transit Planning Study COMMENT CARD

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• • • PLEASE PRINT CLEARLY • • •

Name [REDACTED]
Address [REDACTED] (Rolling Hills MHC)
City / Zip Battle Creek, 49017
Email _____

TELL US WHAT YOU THINK.

We want to know what you think are the issues affecting Battle Creek Transit. Do you have any comments on the current recommendations? Anything you have to say is important. Use the space below and on the back.

*I ride the bus every day except
Sundays and major holidays. The plans
will greatly handicap me. But, if
I have enough time, I can adapt.
Maybe on Saturdays I can use the
Handy Van to go to Felpouch and
buy groceries. There are several options
on how I will get around without
bus service - But I will get by.*

Battle Creek Transit Planning Study COMMENT CARD

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* * * PLEASE PRINT CLEARLY * * *

Name [REDACTED] [REDACTED]
Address _____
City / Zip _____
Email _____

TELL US WHAT YOU THINK.

We want to know what you think are the issues affecting Battle Creek Transit. Do you have any comments on the current recommendations? Anything you have to say is important. Use the space below and on the back.

*By only going to the Social Security office. This could be a big problem to take a
SS.*

Battle Creek Transit Planning Study COMMENT CARD

Battle Creek Transit is the bus service that provides public transportation in Battle Creek. The system that operates today does so in much the same manner as it has for many years. Battle Creek has changed over the years and now it is time to look at Battle Creek Transit to see if it is meeting the current needs of Battle Creek citizens and can also accommodate future needs.

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* * * PLEASE PRINT CLEARLY * * *

Name [REDACTED] [REDACTED]
Address _____
City / Zip _____
Email _____

TELL US WHAT YOU THINK.

We want to know what you think are the issues affecting Battle Creek Transit. Do you have any comments on the current recommendations? Anything you have to say is important. Use the space below and on the back.

*Bus to bus transfer (ie, not downtown) to
make it easier to use system. Give riders
more flexibility. Pass 15 min?*

Battle Creek Transit Planning Study COMMENT CARD

Battle Creek Transit is the bus service that provides public transportation in Battle Creek. The system that operates today does so in much the same manner as it has for many years. Battle Creek has changed over the years and now it is time to look at Battle Creek Transit to see if it is meeting the current needs of Battle Creek citizens and can also accommodate future needs.

The Michigan Department of Transportation has provided the City funds to conduct a study to develop a future vision and operating plan for Battle Creek Transit. The focus of the study is to ensure good service to our citizens while generating operating efficiencies through dynamic and creative means.

* * * PLEASE PRINT CLEARLY * * *

Name 
Address 
City / Zip BC 49017
Email 

TELL US WHAT YOU THINK.

We want to know what you think are the issues affecting Battle Creek Transit. Do you have any comments on the current recommendations? Anything you have to say is important. Use the space below and on the back.

1. I would like routes to run later. This is my only form of transportation & it would be nice to be able to get to the grocery store in the evenings w/o having to take time off work.

2. Again this is my only form of transportation. I live in Rolling Hills & the proposed shortening of the route would cause me to have to walk 2.5 miles



Battle Creek Transit Planning Study COMMENT CARD

Battle Creek Transit is the bus service that provides public transportation in Battle Creek. The system that operates today does so in much the same manner as it has for many years. Battle Creek has changed over the years and now it is time to look at Battle Creek Transit to see if it is meeting the current needs of Battle Creek citizens and can also accommodate future needs.

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* * * PLEASE PRINT CLEARLY * * *

Name [REDACTED]
Address [REDACTED]
City / Zip B.C. 49001
Email _____

TELL US WHAT YOU THINK.

We want to know what you think are the issues affecting Battle Creek Transit. Do you have any comments on the current recommendations? Anything you have to say is important. Use the space below and on the back.

* I think that the ~~Best~~ Bus should run longer because we have enough people in the city that ride the bus. It will help keep the city running because the bus mainly keeps the city running because majority of the city rides the bus. The way the economy is today people don't have money for cars. When the bus stops the city stops.

**February 17, 2009
Public Hearing Questions
and Responses**

Responses to the February 17, 2009 Public Hearing of the Battle Creek City Commission on the Proposed Revisions to the Battle Creek Transit Study Service Recommendations

Q: Dale Bennett, member of the Transportation Equity Task Force, shared her concern about second and third shift workers at Fort Custer. Ms. Bennett asked what innovative solutions has the City considered to accommodate the second and third shift workers to ensure they can keep their jobs.

A: The draft Transit Service Plan calls for an examination of additional evening service in the 6 month to 2-year time frame. The primary focus of this analysis would be to determine the costs and benefits of expanding service, particularly to meet the demands of second and third shift workers. The analysis would include examination of whether shift-specific trippers could be put into place to meet these needs. In the two-year + time frame, the plan recommends putting a shuttle into service that would circulate throughout the Industrial Park. This would allow people to get directly to their place of employment rather than walk. Currently, because of the size of the Industrial Park, it is not possible to provide direct service to a number of locations.

Q: Rev. Mark Woodford, 134 W. Fountain, member of Local Transit Advisory Council, stated if the Capital SW transit route is changed, a group of handicapped MRS employees who work along the southwest Capital corridor will not be able to retain their jobs. He asked the City to address bus service to the Brickyard Medical Facility as many people need to have transportation for medical appointments. Lastly, Rev. Woodford asked for late night transit service in Battle Creek and noted that CALTRAN is the only service that provides service until midnight.

A: The Transit Service Plan calls for a circulator to extend from the Beckley Road area north along Capital Avenue. This circulator could be scheduled to extend as far as necessary to meet the service requirements referenced by Reverend Woodford. As noted above, the City plans to examine evening service (which could include late night service) in the six month to 2 year timeframe. In addition, the study could include consideration of private sector participation in this service.

Q: Rev. William Stein, founder and President of CALTRAN and Chairman and CEO of God's Taxi, stated CALTRAN offers service from 6:00 A.M. to midnight. He stated that he has been fighting for alternative taxi service in Battle Creek for 21 years. Rev. William Stein thanked the Corradino Group for educating the community about transportation; however, he disagreed with the relocation of the transportation center as the current center is only two city blocks from Battle Creek Central High School and W. K. Kellogg School. If the transportation center is relocated, students will have to walk a greater distance creating a safety concern. He did not think it wise to relocate the transportation center near drug and alcohol activity on Main Street.

A: The Transportation Center site proposal is one option that could be considered if Transit's bus island/transfer site has to move due to downtown development. The proposed site is being considered based upon ridership and transfer data that supports the relocation of this facility to this site. Any actual site relocation would require further analysis, consideration of city resources, and issues such as those raised by Reverend Stein.

Q: David Moore, 102 Taylor, was concerned about cutting the hourly routes and stated that it will be necessary for riders to take a cab to a bus stop or the Transportation Center. To provide service to Fort Custer, Transit had to eliminate service along Avenue A and currently those riders have to take a cab downtown to the transportation center.

A: In the areas where cuts are proposed, BCT has considered implementing an option to the Tele-Transit service whereby riders could schedule trips to the nearest bus stop on the main line at the regular bus fare. This concept would be developed in more detail during implementation if sufficient resources were available and the different schedules could be coordinated. For example, a person living in Rolling Hills could schedule a Tele-Transit trip, which would take them to a bus stop on Michigan Avenue and they would continue their trip. The fare for the entire trip might be the same as the regular bus fare. They would do the same on their reverse trip.

Service was eliminated on Avenue A due to funding issues, as Avenue A goes through the City of Springfield, which does not participate in the funding of Battle Creek Transit.

Q: Ginny Baldwin, member of the Transportation Equity Task Force, stated the study suggests that many businesses were contacted to see if they could help with funding to get their customers and employees to and from work. Ms. Baldwin asked what was the result with the contacts and what was the outcome.

A: The study process involved outreach to the business community through several focus groups and a presentation to the local Rotary Club. The discussion focused on getting customers to and from work rather than helping with funding.

Q: Bill Powaser, member of the Transportation Equity Task Force, was sad to see the optimal system is not anything the City can afford. From the Executive Summary, he believed the City has a lean system and a fixed one. Mr. Powaser did not see a lot of innovation as a result and asked what technologies were considered. He asked if there could be a relationship with agencies like "Wheels to Work" to provide coordinated services.

A: The optimal service plan, which is referenced in the study, includes innovation through the provision of distinct "Call-A-Ride" zones to provide service in low density areas. These would be made more efficient through the use of technology such as GPS, advanced scheduling, etc.

As part of an effort that is an outgrowth of this plan, BCT is preparing a coordination plan that references issues such as developing a relationship with agencies like "Wheels to Work."

Q: Molly Faison, member of JONAH, asked with the opening of the United Solar Ovonic plant and with employees earning less than the prevailing wage, how they will get to and from work.

A: The plan calls for evaluation of a Fort Custer circulator in the six month to 2+ year time frame and implementation after that if it is determined feasible. This would cover the United Solar Ovonic plant. If funding is not obtained or the service is not determined to be feasible, it is likely BCT would meet with the plant officials to identify other options for getting employees from the current service on Dickman Road to the plant.

Q: Mickey Harris, member of the Transportation Equity Task Force, asked what mechanisms were built into the plan to adapt to changes and the need for public transportation based on the current economy. She asked the Commission to consider future changes because of widespread layoffs, a spike in gas prices, or a surge in hiring.

A: The optimal service plan has flexibility to adapt to changes. Among its recommendations are the previously mentioned Call-a-Ride zones and thirty minute service on all routes. If sufficient demand caused the local government to increase BCT's funding, the system could add service to work towards the goals of the optimal plan.

Q: Mack Powaga, Albion resident, asked what has been considered regarding a county-wide transportation system.

A: The plan calls for examination of linkages to Marshall and Kalamazoo as well as service to the casino, which is primarily seen as a mechanism to get Battle Creek residents to casino-related employment. Expansion into a county-wide system was not a focus of this study.

Q: Renee Powaga, Albion resident, asked what plan or provisions have been made to evaluate changing transportation needs for outlying groups in the county, such as the Veteran's Administration.

A: BCT is currently completing a coordination plan that encompasses a wide range of community needs. This coordination plan is an on-going process and will be updated annually in order to respond to changing transportation needs and issues.

Q: Jay Weiss, member of the Transportation Equity Task Force, stated the study talks about long-range plans for transportation to the new casino. He stated he would like to see that a short-term plan and have Transit coordinate with the casino to provide bus transportation to and from Battle Creek.

A: BCT will consider this comment.

Q: Pamela Doves commented it would make more sense to move Transit's bus island/transfer site near the Battle Creek Transit office on W. Michigan Avenue.

A: The relocation of Transit's bus island/transfer site near the BCT office on W. Michigan is one of the site options to be considered if a move is necessary.

Q: Malcolm McCaleb, of Rolling Hills, stated one of the reasons he moved to Rolling Hills was the availability of public transportation. He noted there are many veterans and seniors who live in his area that need transportation. Mr. McCaleb asked what alternatives have been considered, such as hybrid buses, and if the City has studied other similar communities.

A: The City's consulting firm has studied public transit in other communities similar to Battle Creek. As BCT replaces vehicles, alternative fuel technologies including hybrid will be considered. As noted earlier, BCT will explore options for those in the Rolling Hills area if the proposed service changes are made.

Q: Doyle Shaver, of Rolling Hills, stated he and his brother utilize the bus system, and it is their only source of transportation. He noted that a taxi cab ride to Urbandale is approximately \$6.

A: As noted earlier, BCT will explore options for those in the Rolling Hills area if the proposed service changes are made.

Q: Robert Beval advised he is a senior citizen on a fixed income and he rides the bus every day. He asked the Commission to consider bus service twice per day to Rolling Hills rather than completely eliminating it.

A: The comment is noted.

Q: Bill Walkertori, resident of Rolling Hills, commented he has not been surveyed and he rides the bus four or five times per week. He felt providing bus service for the working middle class was more important than providing transportation to the casino.

A: The comment is noted.

Q: Jackie Grant, resident of Rolling Hills, stated she and her son utilize the bus. She stated she can not leave work to take her son to school or take him to work. Ms. Grant said that eliminating the bus service to Rolling Hills would be a real hardship on people who can not afford two cars or purchase gas for their cars.

A: The comment is noted.

Q: Desony McMillan, Property Manager of Rolling Hills, read a letter from Rebecca Grant who has four children and one vehicle. Her children have summer plans for participating in classes, driver's training, a part-time job, and working volunteer hours towards a scholarship. Because of Mr. and Mrs. Grant's work schedules, their children will be dependant on the bus service. She encouraged keeping the bus service in Rolling Hills.

A: The comment is noted.

Q: Korena Corkins would like to see transit service to Rolling Hills stay the same.

A: The comment is noted.

Public Transportation Committee Meeting Minutes

- January 1, 2009
- February 11, 2009
- March 12, 2009

**BATTLE CREEK CITY COMMISSION
PUBLIC TRANSPORTATION COMMITTEE
JANUARY 28, 2009
DEPARTMENT OF PUBLIC WORKS
MULTIPURPOSE ROOM; 150 SOUTH KENDALL
4:00 P.M.**

Committee Members Present: Commissioners Baldwin, Hersha, Thompson, Walker

Committee Members Absent: None

Others Present: Greg Zanotti, Public Works Transportation Director; Jerry Hutchison, Transit Manager; James Ritsema, Assistant City Manager; Deidre Laser, City Clerk; Alison Townsend; Larry Strange; and Phil Kazmierski; Ebony Thorpe, Andy Tilma, Deb Crippen, Loren Antes

Call to Order: Commissioner Baldwin called the meeting to order at 4:07 P.M.

Public Comment: None.

Jerry Hutchison welcomed and introduced those in attendance. He noted the purpose of the meeting was to update the Committee on the Transit Study and draft recommendations developed by the Corradino Group.

Review of Transit Study – Larry Strange

Larry Strange reported that the Corradino Group looked at Battle Creek Transit, how it is operating today, and considered if this is the best way for it to operate in the future. Data was collected and focus groups met. The entire bus system was surveyed regarding ridership, trip activity, future services and fares.

The On Board survey revealed that most citizens walk to a bus stop, most ride the bus daily, and many wanted evening service. Of those surveyed 34% rode the bus to work and 26% rode the bus to shop. When asked if a fare increase would affect usage, 73% answered, "no."

Route productivity showed average weekday ridership for the following routes:

1W/ West Michigan	193
2E/Emmett – East Ave.	178
2W/Columbia – Territorial	323
3E/Main – Post	428
3W/Kendall – Goodale	408
4S/ S. W. Capital	276
4N/N.E. Capital	234

The overall transit system was found to work efficiently. Each route was analyzed by looking at boardings, demographics, job locations, flex routes and residences. The Corradino Group concluded their design for optimal service looked very similar to what exists today. They also considered ways to reach low density areas.

Comm. Baldwin asked if routes were implemented where they didn't exist before, would there be ridership.

Larry Strange stated they applied demographic data to a clean slate. Typically riders have lower incomes and fewer automobiles per household. However, the transit system developed as the same basic structure.

Comm. Hersha shared his concern regarding students using the transit system who live on the south side of town; however, the colleges are located on the north side of town. The schedule is time consuming and asked if the study considered their needs.

Mr. Strange remarked that one of the recommendations is a south side circulator which would drastically decrease the length of time south-side students would ride the bus.

Mr. Strange turned the meeting over to Alison Townsend and Jerry Hutchison to explain the short, medium and long-term recommendations.

Short Term Recommendations – (Now to 6 months)

Jerry Hutchison indicated the short-term recommendations are those that could be implemented relatively quickly at little or no cost within six months. Medium-term recommendations have a time frame of six months to two years and would involve making route changes that would require additional resources. The long-term recommendations, two years or longer, would require more study for new services and possibly partnering with Kalamazoo and Marshall for regional services.

Alison Townsend reviewed the following short term recommendations:

1. Shorten 1W by ending it at McDonalds making it a ½ hour route
2. Reconfigure 2E
3. Interline Routes 3E & 3W on weekdays
4. Improve 4N headway to 30 minutes
5. Resume regular service to Felpausch on 4N
6. Restore 30 minutes headways on Saturday to 2E, 3E, 3W, & 4N.

Jerry Hutchison added that the W. Michigan route has the lowest ridership and the recommendations would make better use of the resources in another area.

Alison Townsend said there would be no physical changes to 3E and 3W; however, the same equipment would be used.

Mr. Strange indicated that studies show when frequency of service is increased; there is a corresponding increase in ridership.

Comm. Baldwin asked if the study looked at expanding night hours.

Mr. Strange responded there are fewer people using the buses at night and there are limited resources.

Mr. Hutchison added that expanded hours would require another shift of personnel and would perhaps double the budget.

Medium Term Recommendations – (6 months to 2 years)

Alison Townsend reviewed the following medium recommendations:

1. Reconfigure Route 2W
2. Reconfigure Route 4S
3. Add Beckley Road circulator route
4. Establish a Super Stop
5. Provide potential service to casino
6. Relocation of BCT transfer facility
7. Plan for regional connections with Kalamazoo and/or Marshall
8. Evaluate downtown and Fort Custer circulators
9. Evaluate the expansion of evening van service

Jerry Hutchison noted the recommendation for a Beckley Road circulator route was to provide a greater level of service for citizens to travel around the Beckley Road area, including doctor's offices, stores, apartments, etc. It would take approximately \$75,000-\$150,000 to implement the Beckley Road circulator route.

Greg Zanotti added that one of the advantages of the circulator route for people living in south side apartments is they would not have to ride downtown.

Vice Mayor Walker liked the circulator idea and asked if Mr. Hutchison had considered a fee structure.

Mr. Hutchison stated it will require some work to finalize the project.

Mr. Strange remarked that the private business sector may want buy-in into a circulator route.

Comm. Thompson asked Ms. Townsend to demonstrate the route a student would take from Beckley Road to KCC.

With the development of the casino, Mr. Hutchison stated there has been some interest in Kalamazoo and Marshall to have a regional bus connection. A few years ago, Battle Creek provided a limited bus service to Marshall, The Link, and it was successful.

Mr. Zanotti commented that the casino will generate many jobs and there may be a need for bus transportation.

Based on riders indicating the main reason they come downtown is to access government buildings like City Hall and the Toeller building, Mr. Zanotti stated it makes sense to move the current downtown transfer point closer to City Hall, possibly on South Avenue. He noted that very few riders get off city buses to connect to trains.

Comm. Thompson was pleased with the ideas.

In regards to extended evening van service, Mr. Hutchison stated that some workers have a hard time getting home from their jobs and they would like to evaluate the need further over the next two years.

Long Term Recommendations – (2 years or longer)

1. Add downtown and Fort Custer circulators
2. Add connectors to Kalamazoo and Marshall
3. Expand evening van service if feasible

Mr. Hutchison stated these final recommendations would clearly require finding other funding sources to help implement them.

Comm. Hersha asked if the bus drivers were included in the focus groups.

Mr. Strange responded some bus drivers did attend the focus groups in April.

Grant Possibilities

Mr. Hutchison announced there are a couple of grant programs available to transit systems to receive funding to implement the recommendations:

1) The JARC Program assists employment transportation. It is a competitive grant process with 100% funding with no local match. Transit will be working with the Corradino Group to put together and file an application by March 1, 2009. Part of the process is to obtain public input as required under the regulations.

2) The New Freedoms Program provides operating and capital funding to improve the type of services for individuals with disabilities. This funding program would allow Transit to expand the level of service that we currently provide. However, it requires a 50% local match.

Mr. Zanotti felt from a planning perspective the south side circulator makes sense and asked for feedback on moving forward with the grant application.

Mr. Hutchison stated there are a number of details that would need to be worked out: where to place the Super Stop, the schedule, the fare, etc.

Vice Mayor Walker agreed with the concept.

Comm. Hersha supported the concept, but asked in what other communities circulators have worked. He felt it would be meaningful if the public could see examples.

Mr. Strange replied that Louisville, Kentucky has a circulator that serves the Blue Grass Industrial Park. There are many other areas that have circulators.

Motion: A motion was made by Comm. Thompson, supported by Comm. Baldwin, to move forward with making a grant application for a Beckley Road circulator route.

Vice Mayor Walker asked Mr. Hutchison to provide a report to the committee regarding the grant and project progress.

All yes. Motion carried.

Next Steps: An Open House will be held at Full Blast on Thursday, January 29, 2009, from 10:00 A.M. to 1:00 P.M. to present recommendations from the Battle Creek Transit Planning Study to citizens. Mr. Hutchison noted the Open House has been widely publicized.

Public Hearing: The Battle Creek City Commission will hold a Public Hearing on Tuesday, February 17, 2009, at 7:00 P.M. to receive public comments regarding the transit study and plan. The JARC application and formal adoption of the plan would be approved at a subsequent meeting.

Next Meeting: Comm. Hersha asked that future meetings be held near a bus stop. It was agreed to meet February 11, 2009, at 4:00 P.M. at Full Blast.

Adjournment: 5:35 P.M.

DAL

**BATTLE CREEK CITY COMMISSION
PUBLIC TRANSPORTATION COMMITTEE
FEBRUARY 11, 2009
FULL BLAST
35 HAMBLIN
4:00 P.M.**

Committee Members Present: Commissioners Baldwin, Hersha, Thompson

Committee Members Absent: Vice Mayor Walker

Others Present: Greg Zanotti, Public Works Transportation Director; Jerry Hutchison, Transit Manager; James Ritsema, Assistant City Manager; Deidre Laser, City Clerk;

Call to Order: Commissioner Baldwin called the meeting to order at 4:02 P.M.

Public Comment: None.

Approval of Minutes:

A motion was made by Comm. Thompson, supported by Comm. Hersha, to approve the January 28, 2009, meeting minutes. All yes. Motion carried.

Update on Public Input:

Jerry Hutchinson provided an update on the public Open House that was held on January 29, 2009. He reported that 16 people attended and about a third shared concern in regards to bus route changes, particularly about Rolling Hills being shortened. It was stated that under the circulator route on Capital Ave SW, riders will still be served in the future. It is being questioned if there should be a route going to both of the Meijer stores as passengers tend to go to the Meijer on Helmer more then the one on Beckley. Mr. Hutchison indicated that he met with citizens on February 10, 2009, to put together a coordination plan. This was the first of three meetings and he anticipated a plan to be submitted by the end of the month. Mr. Hutchinson stated that the transfer policy was never meant to board the same bus. Capital and Columbia have two separate routes. He talked about finding ways to better allocate resources and noted that the buses would run more frequently up Capital Ave NE into Pennfield Township. Mr. Hutchinson told the committee that historical results show low ridership in the Urbandale area. He talked about how the City could use a van as an alternative at a low rate and would run at scheduled times. There are 1100 bus rider's everyday and 5 going to Rolling Hills. Ridership is heavier the first of the month. The benefit of Taylor is to circulate bus back to Michigan.

Comm. Hersha asked Mr. Hutchison what his concerns were regarding transfers. He asked Greg Zanotti to illustrate the current Urbandale 60-minute route on the map. Comm. Hersha felt reducing the route will cause a hardship for Rolling Hills' residents

and asked how many people would be affected by the changes for Lakeview and Rolling Hills. He supported a \$2 van service and route change.

Comm. Baldwin asked why they were looking at alternative routes. She questioned if the \$2.00 rate was enough to qualify most riders for van service. Comm. Baldwin would like to see a ridership report. She felt that a \$2.00 call ride for a van would be a good idea.

Greg Zanotti stated that the test runs showed that the buses could go to Bent Tree or Bedford Manor and still not reach Rolling Hills. He voiced that McDonalds is a specific ridership location. Mr. Zanotti suggested either leaving the route as it is or make it a 30 minute route. Mr. Zanotti asked the committee if a \$2.00 call ride is offered in Urbandale, should the City consider a caller ride on the south side. There would be an hour wait at the transfer point. Modifications could be made by scheduling a ride to Rolling Hills to transfer to a Super Stop. Mr. Zanotti would like consensus after the Public Hearing to be held on February 17, 2009. He suggested the Urbandale route to go up to Bent Tree, continue serve on Capital Avenue NE, and offer a \$2.00 call ride for 1 year.

Comm. Thompson shared her concern for the Urbandale area and asked for a clarification on the Arbor Pointe residents. She approved of the caller ride system and questioned how Urbandale would be impacted.

Motion: A motion was made by Comm. Hersha, supported by Comm. Thompson, to support the plan. All yes. Motion carried.

Next Steps: The Battle Creek City Commission will hold a Public Hearing on February 17, 2009, at 7:00 P.M. when the amended transit plan will be presented.

Adjournment: 5:10 P.M.

DAL:ca

**BATTLE CREEK CITY COMMISSION
PUBLIC TRANSPORTATION COMMITTEE**

March 12, 2009

FULL BLAST

35 HAMBLIN

4:00 P.M.

Committee Members Present: Commissioners Baldwin, Hersha, and Thompson

Committee Members Absent: Vice Mayor Walker

Others Present: Rev. William Stein, Dawn Nichols, Joanie Bailey, Robert Beavo, Mary Conklin, Zoe Carpenter, Robert Carpenter, Monica Lee, Paula Boyer, Dawn Hammond Britton, Jim Ritsema, Deb Crippon, Greg Zanotti, Jerry Hutchison, John Kenefick, and Dave Moore

Call to Order: Commissioner Baldwin called the meeting to order at 4:07 P.M.

Public Comment: Rev. William Stein commented that he did not see a posting for the meeting, has requested notices from the City of Battle Creek in writing, and has not received any. He noted that the Local Advisory Council did not approve the applications and he would like an investigation of the Transit staff.

Dave Moore felt that Transit only accommodates big businesses and needs to be more available for the average citizen. He talked about getting donations for transfers due to the cost, and that the bus routes should be increased.

Robert Carpenter wanted to make sure that the Capital Avenue SW route was not changed.

John Kenefick asked for members to identify themselves.

Approval of Minutes:

A motion was made by Comm. Thompson, supported by Comm. Hersha, to approve the February 11, 2009, meeting minutes. All yes. Motion carried.

Discussion Items:

Comm. Hersha asked that the meeting move more quickly as he needed to catch a bus by 5:15 P.M.

Jerry Hutchison spoke about the service recommendations from the previous meeting and stated they are still gathering information to see what the next steps will be. Meetings and a Public Hearing were held and a number of concerns were raised. The Corradino Group recommended the removal of service off W. Michigan (Rolling Hills). They revisited the

Rolling Hills change with a new proposal for Bedford Road and Taylor Avenue to keep the route within 30 minutes. An alternative is to provide Tele-Transit service at a reduced rate.

Greg Zanotti talked of a discounted rate for Rolling Hill residents on a trial basis. They are considering a \$2.00 ride for van service. Staff is still analyzing the data.

Jerry Hutchison stated that proposed service recommendations in the 0 – 6 months time frame are those that can be implemented at no cost or minimal cost

Comm. Baldwin asked how close the staff count versus the consultant's figures was in the planning study.

Jerry Hutchison said that the staff count was very close and that there were about 6-7 Rolling Hills riders per day. There are key times that it is used more then other times.

Comm. Baldwin asked if there would be a handout.

Comm. Hersha wished to expand service. He wanted to know what need or problem they are trying to solve with the Capital NE route.

Jerry Hutchison said that it would help the majority of people using the service to make changes to West Michigan and reallocate drivers to the Capital NE Avenue route. An additional issue is safety. The Capital NE route is a busier route, oftentimes resulting in the bus running late. The budget does not allow increasing service without decreasing service somewhere else.

Comm. Baldwin asked if there was any additional information that they would be getting with the recommendations.

Greg Zanotti said that they are still doing rider counts and they are going to continue to ride the Urbandale route to see if there is anything else that can be done.

Comm. Baldwin requested a Capital NE route count at the next meeting.

Comm. Thompson asked Mr. Hutchison to show on a map where better service is needed.

Jerry Hutchison pointed out the current Capital NE route.

Greg Zanotti spoke about making modifications to the route to make it a 30-minute route.

Comm. Hersha asked how developed the changes to the Rolling Hills route are.

Mr. Zanotti talked of trying to develop a scheduled time for "subscription" van service to Rolling Hills as an alternative to regular bus service.

Jerry Hutchison said that this is a very new idea and he needs more information to see if it is workable.

Comm. Hersha says that the van is not always available and would like the ability to expand the Tele-Transit system.

Mr. Hutchison said that a JARC grant application will be submitted to MDOT. JARC is a Federal program to enhance service, focusing on employment transportation for people with limited income. If approved, the express route M66 to Beckley Road would be implemented. A recommendation was for a bus ride to Beckley Road every 30 minutes versus Capital SW in 60 minutes. A shuttle-type service would tie into the bus route around the Beckley area. It has been proposed to provide after-hours service to midnight. Mr. Hutchison stated staff would work with private providers, possibly the taxicab company, to get people home once they arrive at the Transportation Center. If funding was approved, regular bus service on Capital SW would be maintained, with new "shuttle" service to Beckley Road. It would be several months before we would know if the funding request in the JARC application was approved.

Jerry Hutchison stated it has been an issue that sometimes a Tele Transit van rider is not there for his/her scheduled pick up and, subsequently, receives a no-show notice. Currently, three (3) no shows in a 30-day time frame may result in a 30-day suspension. There is a small group of riders that abuses the policy and Transit staff are trying to work with these people as much as possible. After a third no show, Transit sends a 30-day suspension letter via certified mail. He stated there is an appeal process in place. They are looking at the process to see where they can improve and implement stages of suspension, 15 days the first time, 30 days the second time, with the goal trying to correct the behavior.

Comm. Baldwin asked how many suspensions there currently are. Mr. Hutchison answered that there are 3 to 4 at any time.

Comm. Hersha felt the current policy is very lenient and the policy should be made very clear.

Jerry Hutchison said that new riders receive all information regarding the City's service-policy.

Comm. Thompson asked to have Capital Avenue SW numbers for the next meeting and a copy of the no show policy.

Next Steps: Comm. Baldwin stated one more meeting is needed. The next meeting is March 26, 2009, at 4:00 P.M. at Full Blast.

Adjournment: The meeting was adjourned at 5:07 P.M.

DHB/ca

**PUBLIC TRANSPORTATION COMMITTEE
FULL BLAST - CONFERENCE ROOM
35 HAMBLIN
April 23, 2009
4:00 P.M.**

Committee Members Present: Commissioners Baldwin, Walker, and Thompson

Committee Members Absent: Commissioner Hersha

Others Present: Greg Zanotti, Jerry Hutchison, Barb Hobson, Jill Steele, Rich Werner and Charity Alderson

Call to Order: Commissioner Baldwin called the meeting to order at 4:08 P.M.

Public Comment: None

Approval of Minutes:

A motion was made by Comm. Thompson, supported by Comm. Walker, to approve the March 12, 2009, meeting minutes. All yes. Motion carried.

Discussion Items:

Jerry Hutchison spoke about the service recommendations from the previous meeting and stated they are finalizing a plan for Rolling Hills and the W. Michigan Ave route. It has been determined that the bus service could be restored in Urbandale but not to Rolling Hills. Two options for providing alternate van service to Rolling Hills were discussed. The first option would be to establish scheduled or dedicated times in which the van would pick up residents in the morning and bring them downtown, and then return them back to Rolling Hills in the afternoon. The fares for this would be \$.60 for senior citizens and persons with disabilities, and \$1.25 for all others, the same as fares on the regular buses.

The other option available to Rolling Hills' residents would be for them to make their own arrangements for van service which would take them anywhere they wanted to go. Compared with the normal van fares, Rolling Hill residents would pay a reduced van fare of \$1.00 for senior citizens and persons with disabilities, and \$2.00 for all others.

Greg Zanotti talked of this being a door-to-door service.

Comm. Baldwin asked what happens if the van is full?

Jerry Hutchison said that if the van is full, a person would make a reservation for the van service if the scheduled times do not fit his/her needs.

Comm. Baldwin noted the pick-up times of 8:45am, 10:45am and 3:15pm, 4:15pm to Rolling Hills.

Jerry Hutchison explained that the pick-up times are what have been the busiest and that Transit will meet with Rolling Hills' management and residents prior to implementing any service change. Ridership showed that the riders generally leave in the morning and return in the afternoon.

Comm. Baldwin asked what kind of transportation would be available on Saturdays.

Jerry Hutchison said that they would maintain the regular bus schedule on Saturdays and it would go to Rolling Hills and Arbor Pointe.

Comm. Thompson asked if anyone has gotten feedback from the Rolling Hills' residents.

Jerry Hutchison stated that they will be meeting with the Rolling Hills folks to gain feedback on pick-up times. The van will be picking up others on the way to and from Rolling Hills. They will be trying to get riders downtown as close to the schedule times of the regular buses.

Comm. Thompson asked if the van was more flexible than the bus service.

Jerry Hutchison said that it would be different everyday because the van would still be picking up and dropping off other riders.

Greg Zanotti explained that the dedicated van will follow the existing bus route in Rolling Hills, while other vans will continue to go door-to-door.

Comm. Thompson asked how anyone would know that this solution is not working.

Jerry Hutchison said that they would know by the ridership and feedback from the residents.

Comm. Baldwin asked when this would be implemented.

Jerry Hutchison said that this would be starting in early to mid July.

Comm. Baldwin suggested that they post notices on buses with information on where to call with questions and concerns.

Jerry Hutchison stated that there will be a 60-day evaluation to see what will work the best. Transit would hold off on making the changes to the Capital Avenue N.E. bus route.

A motion was made by Vice Mayor Walker, supported by Comm. Thompson, to implement on a trial basis the recommended changes. All yes. Motion carried.

Vice Mayor Walker was very pleased that Transit will accommodate many of the concerns raised by the Rolling Hills' residents.

Jerry Hutchison anticipated recommendations going before the City Commission on May 19, 2009.

A motion was made by Comm. Thompson, supported by Vice Mayor Walker to adopt the Corradino Group recommendations with modifications to the W. Michigan Avenue route based on public input. All yes. Motion carried.

There was discussion about posting the notices in Spanish as well as English.

Adjournment: The meeting was adjourned at 4:40 P.M.

/cfa

Appendix C

Fixed Route Design Standards

GUIDELINES FOR ROUTING

1. Use direct routing whenever possible.
2. Reverse- or loop-routing is to be used very sparingly.
3. The access character of routing ("fine-grained" service or spacing of routes, parking facilities, door-to-door service, etc.) or the inclusion of the consumer in the transit system must be made part of the analysis of routing.
4. The exploitation by transit of the physical characteristics of alternative routes (physical aspects, speed, traffic aspects of various streets, etc.) should be part of the analysis.
5. Duplication of routes must be avoided; it is better to run three routes on three separate streets than to run three routes on one street. Naturally, the routes will converge at the central business district.
6. If possible, routes should begin and end at traffic generators.
7. Routes should attempt to touch as many traffic generators as possible. If a route becomes too circuitous (as measured by distance or running time), then another route may be needed.
8. If several routes focus on a subcenter (e.g., shopping center), service beyond this subcenter requires a separate analysis of routing in which the subcenter is considered the hub.
9. Transit vehicles should, if possible, enter a shopping center, apartment complex, recreation area, or factory complex.
10. At a major downtown or shopping center terminus, transit vehicles should pull up next to one another to expedite transferring. Passengers should never have to dash across a street to transfer. A transfer shelter is almost mandatory at downtown sites, even if public officials must be contacted for some change in street patterns.
11. The route should be considered a flexible marketing instrument and its review (in conjunction with the firm's other marketing variables) should be a regular activity.

Source: Indiana University, Graduate School of Business, "Mass Transit Management: A Handbook for Small Cities," report prepared for the Institute of Urban Transportation, February, 1971.