

McHenry County, Illinois

TRANSIT COMPONENT

MCHENRY COUNTY 2040 TRANSPORTATION PLAN



SERVICE RECOMMENDATIONS AND IMPLEMENTATION REPORT

June 2013

Acknowledgements

The success of this Transit Component of the McHenry County 2040 Transportation Plan is made possible only through the concerted and sustained efforts, input and insights of the residents, business and property owners, representatives of the RTA, Pace, Metra, IDOT and representatives of McHenry County. Their effort in the process is appreciated.

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I. Introduction

This report details the Short Term and Long Term Service Strategies and the Implementation Plan for the McHenry County 2040 Transit Plan. The service strategies are based on previous information that has been developed for this study. Background data can be found in the *Existing Conditions Report (January 2012)*, the *Fixed Route Service Demand Memo (June 2012)* and the *Service Strategies Report (July 2012)*.

The *Existing Conditions Report* detailed important data on socio-economic conditions, existing and proposed land use, travel patterns, major employers, housing forecasts, information on transit dependent populations, and roadway conditions. It also provided information on existing Pace fixed route bus service, Metra commuter rail service and the various dial-a-ride services offered throughout the County. This information provided the background to help identify the challenges of past and future changes in the County that can be addressed through transportation improvements.

The *Fixed Route Service Demand Memo* started identifying the way additional transit services could address the County's needs in the future. The information that was presented in the *Fixed Route Service Demand Memo* identified transit needs by reviewing the RTA's Transit Demand Index (TDI), public input received to date, and ridership and operating characteristics of Pace fixed routes 806, 807, and 808. This information was used to identify where there are possible inefficiencies in service, determined areas of potential new service and provided an approach and strategy in achieving better transit services, as reflected in the *Service Strategies Report*.

This report, *Service Recommendations and Implementation Report*, identifies the short term and long term service recommendations and provides implementation strategies. The Short Term Service Strategies are concentrated on service improvements for the next 7 years (i.e. 2012 to 2019). The recommendations include service changes to Pace Routes 806-807-808, as well as new services in areas of the County that has experienced significant growth and development. The Long Term Service Strategies discuss transit corridors in the long term (2019 to 2040), reflecting the findings in the previous *McHenry County Transit Plan*, adopted in 2004, and updating recommendations as appropriate.

II. Analysis of Existing Fixed Route Bus Service

A. Introduction

As described in the *Existing Conditions Report*, McHenry County is a large and diverse county. While there are areas with some concentration of residential, commercial, or institutional activity (especially in the town centers), both the population and built environment are relatively dispersed. Land uses are range from agricultural to more densely suburban characteristics. Fixed route bus transit service is provided by Pace Routes 806, 807, and 808. These are relatively long routes, operating between the larger communities in the County, providing service to the Metra Union Pacific North West (UP-NW) Line and the Metra Milwaukee District North (MD-N) Line stations. Service on the fixed routes is only operated on weekdays, in peak hours. These routes have been in operation since the 1970s and have had no significant modifications to their routing or service since that time.

There are major portions of McHenry County that have no access to fixed route bus service, Metra commuter rail service, or even general public dial-a-ride service. These underserved areas are places where there was very little activity even fifteen years ago but are continuing to grow and becoming centers of activity, such as in the Algonquin, Crystal Lake, and Lake in the Hills areas. However, there are challenges for providing fixed route bus service in McHenry County. While there are pockets of concentration and areas of high activity, there are still long stretches of roads through farmland with few residential uses or other types of activity along them.

Additionally, the auto-oriented pattern of development most commonly followed over the years is one where new construction is most often located away from established community centers. This pattern, the opposite of transit-oriented development (TOD), causes various issues. Density is reduced, making it harder to serve by transit. Even if a building is located along a major route, new buildings are typically set very far back from the street with large surface parking lots between the roadway and the front door of the building. If the bus stays on the main arterial roadway, passengers must walk across the full length of the parking lot to get to their destination. If the bus deviates through the parking lot to the front door of the building, it often adds significant time delay to the schedule, discouraging through riders and increasing operating costs.

In McHenry County, the areas served by fixed route bus service, are not generating significant ridership. Performance statistics for each route is displayed in Table I. Performance statistics for an average Pace route classified as “suburban link” services (the McHenry routes are considered “suburban link” services), also shown in Table I, show that average daily ridership is 533 and there are approximately 20 passengers per revenue hours. Given the dispersed origins and destinations in McHenry County, it is not surprising that performance of Routes 808,807 and 808 is lower than is typical for fixed route transit in other parts of Pace’s service area.

The results of a McHenry County Transit Survey show that transit service is providing mobility for a great number of people. The vast majority of riders would not be able to get to their jobs, schools, medical appointments, or social engagements because they are unable to drive because they are too old, too young, have a disability, or cannot afford a car. Passenger surveys indicate that they generally prefer buses operating with fixed routes and schedules over dial-a-ride. Fixed route service also has the potential to be more efficient, carrying more passengers per vehicle hour than dial-a-ride.



Table I
Performance Statistics for McHenry County Fixed Route Service -Typical Performance Per Weekday¹

ROUTE	NAME	Typical Daily Ridership	Revenue Hours*	Passengers Per Rev. Hr.	Vehicle Hours	Passengers Per Veh. Hr.	Revenue Miles	Passengers per Rev. Mile	Vehicle Miles	Passengers per Veh. Mile
806	Crystal Lake-Fox Lake	62	12.01	5.16	15.22	4.07	292.4	0.21	366.00	0.17
807	Woodstock-McHenry	52	10.10	5.15	13.12	3.96	224.6	0.23	278.20	0.19
808	Crystal Lake-Harvard	80	13.13	6.09	17.82	4.49	295.0	0.27	413.40	0.19
n/a	System Average for "Suburban Link" Route**	533	u/k	19.8	u/k	u/k	u/k	u/k	u/k	u/k
Overall		194	35.24	5.51	46.16	4.20	812	0.24	1057.6	0.18

*Including scheduled layover

**Statistics shown are from an average of 30 Pace routes classified as suburban link routes; routes vary in terms of length and population of service area. Some statistics are not available.

Sections B, C and D describe the profile of each of the existing routes. Average weekday ridership from 1998-2011 is presented for each route in order to see ridership patterns over the years. In order to determine what part of the route is most productive, September 2011 counts of boarding passengers on each route at each scheduled stop were analyzed. It is assumed that the ridership pattern during this reporting period is the typical ridership pattern along the route for other months during the year. Route maps for each route are provided in each section. Schedule information is provided in the Appendix.

B. Route 806

I. Route Description

Pace Route 806 travels between the Crystal Lake Metra Station on the Union Pacific Northwest (UP-NW) Line to Fox Lake (the Metra MD-N Line Station and the Town Centre) as shown in the route map in Figure I. There are three northbound trips in the morning and two in the afternoon. There are four southbound trips in the morning (one only to the old McHenry City Hall) and four in the afternoon (one of these originates at McHenry). These trips vary in their destinations as well. Major destinations along the route include the three cities (Crystal Lake, McHenry, and Fox Lake), Pioneer Center (a sheltered workshop located south of McHenry), and Centegra Medical Center. There are three route variations that take certain trips to points not on the regular route and one variation used by two southbound trips that bypass part of the regular route to save travel time. During the midday, customers may request service through the McHenry County Dial-a-Ride program (MCRide). Average daily ridership has been quite stable but is the lowest of the three fixed routes; see Table 2 below.

¹ Typical daily ridership for the McHenry County fixed route service is derived from the boarding counts taken in September, 2011. Performance statistics are calculated based on hours and miles data provided by Pace.



Table 2: Route 806 Average Daily Ridership 1998-2011

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Average Daily Ridership	55	59	59	57	49	65	57	58	60	59	58	52	53	60

Source: Pace

Route 806 Effective Date
 September 26, 2011

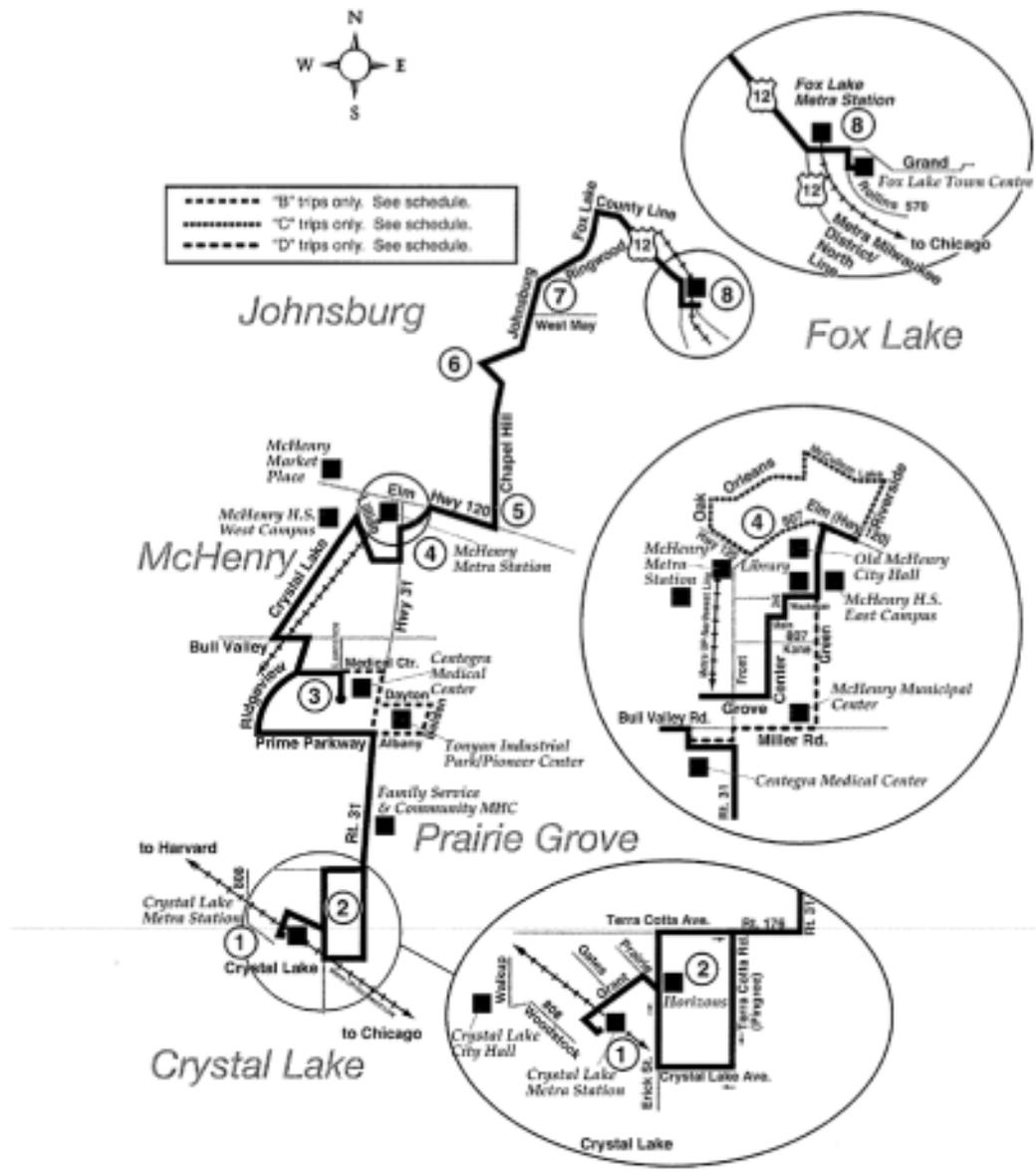


Figure 1

The number of riders boarding in each route segment for both AM and PM services for the month of September 2011 was collected and analyzed. Total monthly boardings for each stop are listed in Table 3. Locations where passengers alighted from the bus are not recorded by the driver.

Table 3: Average Daily Boardings by Trip and Segment for Route 806 (September 2011)

Weekday Northbound

Departure Time	CL Metra	Pioneer Center	Centegra Med. Ctr.	Old McHenry City Hall	Hwy 120/Chapel Hill	Johnsburg/Chapel Hill	Johnsburg/West May	Trip Total
5:55 AM	0	-	0	0.3	0.65	0	0	0.9
7:30	12.1	0	0	0.3	0.15	0.1	0.2	12.8
8:15	10.7	0	0.1	0.3	0	0	0.1	11.0
4:10 PM	5.1	0	0.5	0.9	0	0	0.1	6.6
5:05	1.2	-	0	0.7	0.1	0	0	2.0

Weekday Southbound

Departure Time	Fox Lake Town Centre	Johnsburg/West May	Johnsburg/Chapel Hill	Hwy 120/Chapel Hill	Old McHenry City Hall	Centegra Med. Ctr.	Pioneer Center	Trip Total
6:20 AM	1.6	0.4	0.6	0.15	0.5	0.1	0.1	3.5
6:55	0.4	2.9	8.9	3.4	1.1	0.85	0	17.4
8:30	0.7	0.7	0.8	0.8	2.3	0.1	-	5.2
9:15	0.8	0	0	0	0	0	0	0.8
3:30	-	-	-	-	0.4	0	2.1	2.4
4:00 PM	0.9	0	0.1	0.3	0.2	1.1	-	2.0
5:29	0.3	0	0.1	0	0	0	-	0.4

*See Northbound trips 3 for boardings at this location

C. Ridership Analysis

The most heavily used trips are in the morning peak. One trip (the 6:55 AM Southbound) carries over 17 passengers on an average day, productivity much higher than could be achieved by dial-a-ride. All trips carry some riders, although there are a couple that carry less than one person for a daily average; these are mainly at the beginning or end of service and are, essentially, positioning trips, getting the bus to/from the garage. The stop that has the greatest amount of ridership is at/near the Crystal Lake Metra Station.

A few points to supplement the counts came out of discussion with Pace:

- There are more riders getting on at the Crystal Lake Metra Station in the morning than are returning in the afternoon; these are Pioneer Center clients who return at varying times of day, utilizing dial-a-ride or obtain other rides
- The segment of the regular route along Ridgeview and Prime Parkway portion, already skipped on two southbound trips, does not have significant ridership.
- The route has a lengthy deviation via Elm-Oak-Orleans-McCullom Lake-Riverside. It is not clear whether there are any riders on this loop although it serves McHenry Commons, a shopping center.

- There has recently been extensive retail development along the section of Riverside (IL Route 31) north of McHenry, including a new Walmart. A senior center and family mental health center is also located along this section of IL Route 31.

D. Route 807

I. Route Description

Route 807 provides service from Woodstock to McHenry serving destinations such as Woodstock Metra Station, the McHenry County Government Center, and on one trip respectively to the Pioneer Center and Marian Central High School. It operates between the Woodstock Metra UP-NW Line Station and McHenry, terminating at the old McHenry City Hall, as shown in Figure 2. There are two eastbound trips in the morning and two eastbound trips in the afternoon. In the morning, there are three westbound trips, but only one of those trips stops at McHenry Commons. In the afternoon, there are two westbound trips. Route 807 primarily operates via IL Route 120, although it makes a lengthy deviation around Wonder Lake. One trip also stops at the Pioneer Center. Average daily ridership from 1998 to 2011 is reflected in Table 4 below. Ridership on the fixed route portion of the route was collected at each stop for the month of September 2011. Total monthly boardings for each stop are listed in Table 5.

Table 4: Route 807 Average Daily Ridership 1998-2011

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Average Daily Ridership	87	83	95	89	79	78	68	64	64	69	73	77	67	75

Source: Pace

**Table 5: Average Daily Boardings by Timepoint and Run for Route 807 (September 2011)
Weekday Eastbound**

Departure Time	Woodstock Metra	McHenry Co. Courthouse	Marian Central HS	Sunrise Ridge/Thompson/Wondermere	Wonder Lake PO	McHenry Market Place	McHenry HWY 120/CL Road	McHenry Commons	Trip Totals
5:45 AM	0.5	0	0	0.9	0	0	0	-	1.4
7:25	18.7	1.2	0	1.9	0.7	0	-	2	22.5
2:30 PM	3.4	0.1	3.1	0.3	0.1	0.6	0	-	7.5
3:30	1.8	0.5	-	0	0	0.1	0	-	2.4

Weekday Westbound

Departure Time	Old McHenry City Hall	Pioneer Center	McHenry Commons	McHenry HWY 120/CL Road	McHenry Market Place	Wonder Lake PO	Sunrise Ridge/Thompson/Wondermere	McHenry Co. Courthouse	Trip Totals
6:00 AM	0.1	-	-	0	0.1	0	0.4	0.2	0.7
7:00	5.2	-	-	0.4	0	0.1	0.8	0	6.4
8:41	0.6	-	0.2	-	0.5	0.2	0.4	0.1	1.4
3:40 PM	1.1	5.8	1.3	0.2	0.5	0.1	0.1	0	8.9
4:34	0.3	-	0.3	0	0.4	0	0	0	1.1

Route 807 Effective Date November 2, 2009

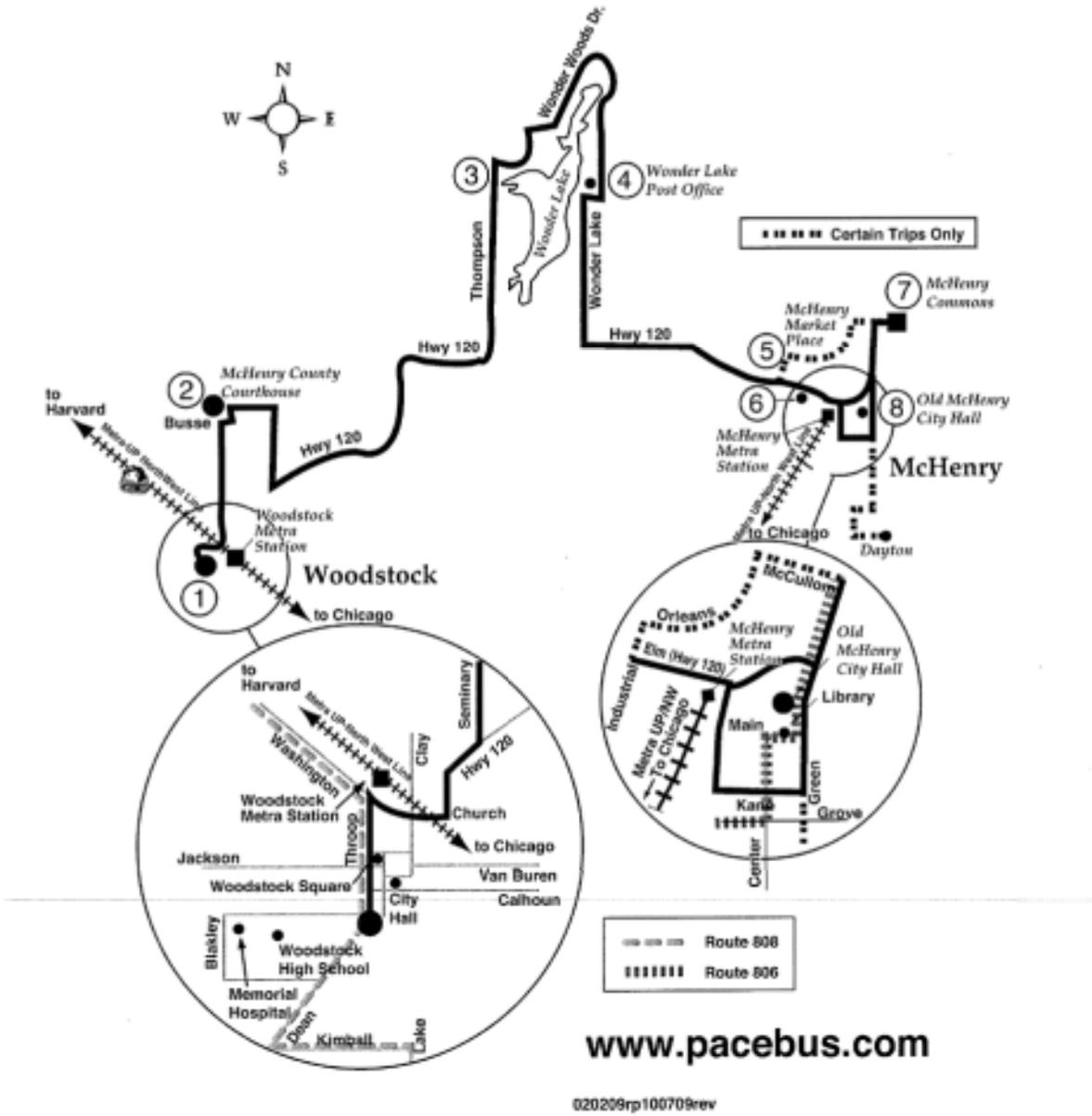


Figure 2



2. Ridership Analysis

Route 807 is designed to provide service between Woodstock, Wonder Lake and McHenry. These areas have some concentrations of residences, commercial, institutional, and offices locations, however, the distance between these areas is relatively long. There do not appear to be any significant portions of the route or stops that generate concentrations of ridership. There is negligible boarding activity on the lengthy deviation via Wonder Lake. The most heavily used trip is one eastbound trip in the morning peak which averages over 22 passengers. This trip is extended to the Pioneer Center and it is understood that most of the riders on this trip are going there. All trips carry some riders, although there are several that carry an average of about one passenger per day. The stop that has the greatest amount of boardings is at/near the Woodstock Metra Station, followed by the downtown McHenry area. The routing in downtown McHenry is complex and difficult for a passenger to understand. It is also suspected that there is limited ridership on the trips via the long loop via Orleans.

E. Route 808

I. Route Description

Route 808 operates between Harvard (originating at the Harvard Community Hospital), the Woodstock Metra Station and the Crystal Lake Metra Station (see Figure 3). The route parallels the UP-NW Metra line and serves McHenry County College. There are three eastbound trips in the morning with one only to Woodstock. There are four eastbound trips in the afternoon, one originating in Woodstock. Westbound, there are three morning trips with the last one terminating in Woodstock. In the afternoon there are four complete westbound trips. There are route and schedule variations in both morning and afternoon, both westbound and eastbound, based on serving Marian Central High School, about a mile off the regular route. In addition, the schedule has a note on the timetable saying that the bus will deviate to Centegra Memorial Medical Center, (set back about 0.1 mile from IL Route 14) in response to a request by phone call to the Pace dispatcher (and, presumably on request from a passenger to the driver to be dropped off there). The major destinations along the route are the downtown stops in the three cities, McHenry County College, and the Hospital. Average daily ridership from 1998 to 2011 is reflected in Table 6 below.

Boarding rider counts were collected by route segment for each day for the month of September 2011. Total monthly boardings for each stop are listed in Table 7.

Table 6: Route 808 Average Daily Ridership 1998-2011

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Average Daily Ridership	93	94	83	79	71	80	62	62	67	61	69	62	66	74

Source: Pace

Route 808 Effective Date November 2, 2009

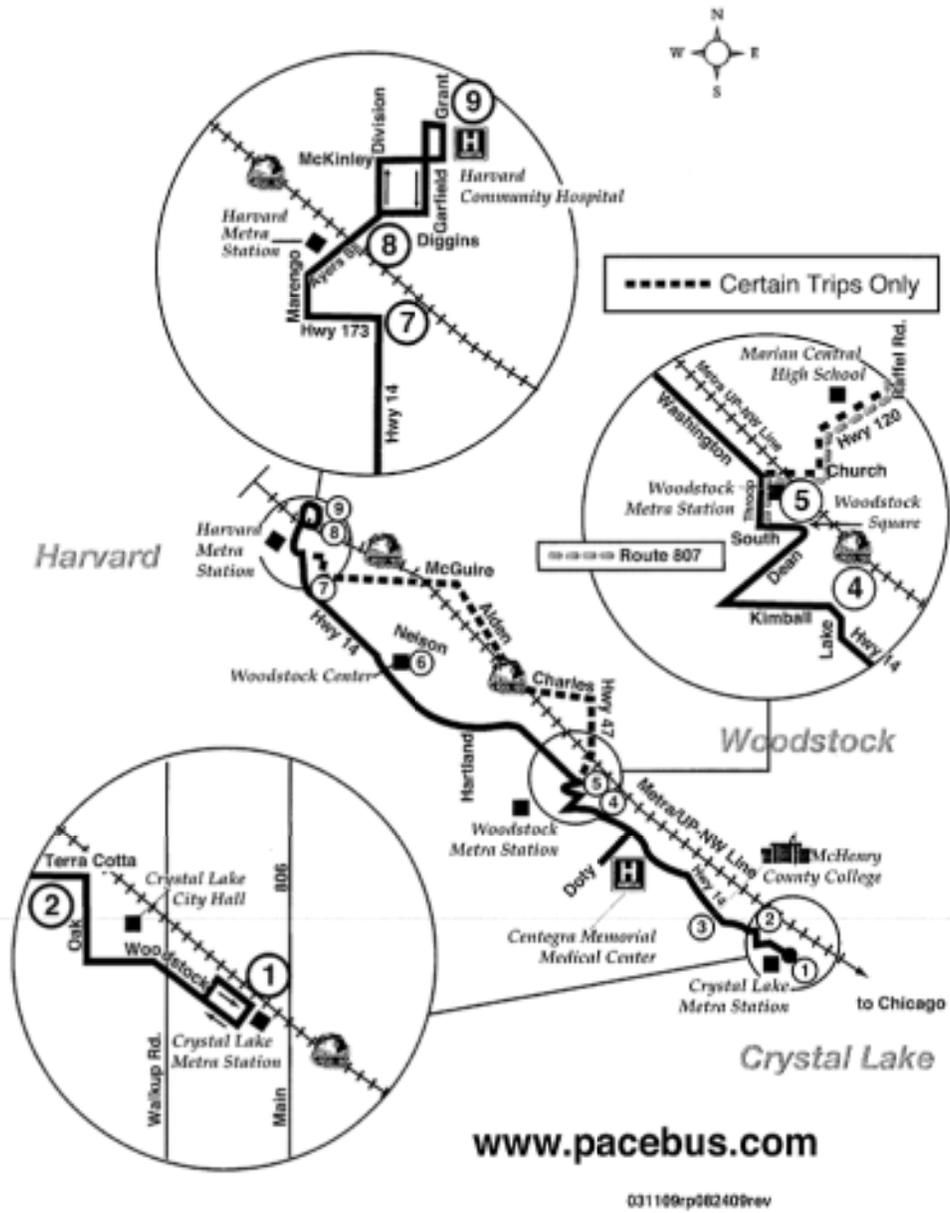


Figure 3

Table 7: Average Daily Boardings by Segment and Trip for Route 808 (September 2011)

Weekday Eastbound

Departure Time	Harvard Comm. Hospital	Harvard Ayer/Diggins	Harvard Hwy 173/14	Harvard Woodstock Center	Woodstock Metra Station	Marian Central HS	Woodstock Lake/Hwy 14	McHenry Co. College	CL Terra Cotta/Oak	Trip Totals
6:22 AM	3	0.2	0	0	4.8	-	2.4	0.1	0.6	11
7:23	1.9	7.9	0	0	6.7	0	0.6	0.1	0	17.3
8:57	0.2	1.5	0.1	0	0	-	-	-	-	2
2:30PM	-	-	-	-	3.1	0.2	0	1.8	0	5.1
3:00	2.3	0	0	0	1.3	-	0	0.7		4.3
4:08	0.2	0.8	0	0	1.3	-	0	0.6	0	3.2
5:20	1.7	0	0	0	0.3	-	0	0.5	0.1	2.5

Weekday Westbound

Departure Time	Metra CL Station	CL Terra Cotta/Oak	McHenry Co. College	Woodstock Lake/Hwy 14	Woodstock Metra Station	Marian Central HS	Harvard Woodstock Center	Harvard Hwy 173/14	Harvard Ayer/Diggins	Trip Totals
6:30AM	1.6	0.1	0	1.7	2.1	-	0.2	0	1.5	7.2
7:30	1.1	0.9	0.1	0	0.7	0	0	0	0.1	3
8:40	2.3	0.4	0.1	0.2	-	-	-	-	-	2.9
2:00PM	2.8	0	3.2	0.4	0.7	2.3	0	0	0	9.4
3:03	1.3	0	2.1	0	1	-	0	0	0	4.4
4:10	3.2	0	2.2	0	2	-	0	0.1	0	7.5
5:05	1.2	0	2.4	0.3	0.8	-	0	0	0	4.6

2. Route 808 Ridership Analysis

The only trips that carry more than 10 passengers are the first two morning trips out of Harvard, with boardings split between Harvard and Woodstock. These trips are paralleled by Metra service which is much faster, and more frequent, but has distance-based fares that are higher than the Pace flat fixed route fares (i.e. \$5.25 for Metra between Crystal Lake and McHenry versus \$1.75 for Pace for a full adult fare; reduced fare for Metra is \$2.50 and Pace \$.85). The westbound morning service does not have as many riders as the a.m. east bound service; the bus leaving Crystal Lake Station at 6:30 a.m. has the most ridership along the route, i.e. 7 riders. The stop which has the most significant boardings in the eastbound direction is downtown Woodstock. Westbound in the afternoon, McHenry County College is the most heavily used single stop. The diversions to serve Marian Central High School do not attract many riders; in the afternoon only an average of 0.2 riders per day board the southbound trip and 2.3 riders board the northbound trip. There is no record of anyone taking advantage of the diversion to Centegra Memorial Medical Center.

F. Midday Services

In the off-peak commuting times, Pace substitutes general public dial-a-ride service for the fixed routes in the area with a service called Midday Intercommunity Service. This type of service helps meet some of the unmet demand for transit service in the County. The service area is similar to the area served by the fixed route buses. The Midday Intercommunity Service area is: between Crystal Lake and Spring Hill Mall, including Algonquin and Lake in the Hills (east of Frank Road only); between Crystal Lake and McHenry; between Woodstock, McHenry, Wonder Lake and Crystal Lake; and between Woodstock and Crystal Lake.

Ridership statistics for this service were reflected in the *Existing Conditions Report*. Monthly ridership was relatively low in 2010 ranging from 675 riders in May to 979 in January. Ridership in 2011 was higher, ranging from 946 in February to 2047 in August.

In addition to the Midday Intercommunity Service, McHenry County, on February 1, 2012 established MCRide dial-a-ride service. MCRide created a coordinated dial-a-ride service for the general public with a service area that eliminated many of the geographic barriers to existing services. It also extended service hours (6 AM to 7 PM on weekdays) and the County's first Saturday transit service, from 9 AM to 5PM. MCRide service is in operation in the areas where the peak period fixed route service operates. The County and Pace are currently in discussions to incorporate the Midday Intercommunity with MCRide.

McRide ridership information is located in the *Existing Conditions Report*.