

Pace Route 573 Green Bay Road Study

Final Report

November 2016

Prepared for
Pace Suburban Bus
Regional Transportation Authority

Prepared by
T.Y. Lin International
MKC Associates

Contents

1	Executive Summary	1
2	Introduction	2
3	Transit Characteristics	5
3.1	Waukegan Bus Routes Comparison	5
3.2	Regional Transit Index.....	7
3.3	Demographic and Commuting Trends	9
4	Transit Characteristic Findings	12
5	Plans and Studies Review	14
6	Service Options	16
6.1	Initial Service Options	16
6.2	Steering Committee Feedback.....	18
6.3	Final Service Options.....	20
7	Final Service Options Evaluation	32
8	Findings and Next Steps.....	34

List of Figures

Figure 2-1:	Study Area Overview Map.....	4
Figure 3-1:	Pace Bus Routes and Ridership in Waukegan Area	6
Figure 3-2:	Regional Transit Index for Study Area	8
Figure 3-3:	Study Area Census Tracts with Highest Indicating Factor for Using Transit	11
Figure 4-1:	Map of Findings	13
Figure 6-1	Drawings of the Initial Service Options	17
Figure 6-2	Option A - Cost-Neutral (Current Route 573)	22
Figure 6-3	Option B - Reconfigure Route 573 Fountain Square to Ford/Sheridan	24
Figure 6-4	Option C - Reconfigure Route 573 Fountain Square to Cambridge Subdivision.....	27
Figure 6-5	Option D - Call-n-Ride and Reconfigure Route 562	31

List of Tables

Table 3-1: Waukegan Area Pace Routes - Key Performance Characteristics.....	5
Table 3-2: Study Area Transportation and Demographic Data.....	10
Table 6-1 Initial Service Options	16
Table 6-2 Option A Route Characteristics.....	20
Table 6-3 Option B Route Characteristics.....	23
Table 6-4 Option C Route Characteristics.....	26
Table 6-5 Option D Route Characteristics.....	30
Table 7-1 Achieved Objectives by Option.....	32
Table 7-2 Service Characteristics by Option	33

List of Attachments

- Attachment A – Questionnaire on Initial Service Options
- Attachment B – Questionnaire Responses
- Attachment C - Current Route 573 Schedule
- Attachment D – Route 573 Option B Schedule
- Attachment E – Routes 573 and 566 Option C Schedules
- Attachment F – Option D Route 562 Schedule

1 Executive Summary

The purpose of this study is to examine Pace bus service in the Green Bay Road corridor within the communities of Beach Park and Waukegan, Illinois, and determine if public transportation services should be adjusted to serve the existing needs of the community. The Pace bus route of greatest focus is Route 573. The route alignment originates at Woodland Village in Waukegan, travels north on Dugdale, west on 10th Street, north on Green Bay Road, east on York House Road, north on North Avenue, west on Beach Road, south on Lewis, and terminates at Edgewood/Newcastle. Return trips travel west on Edgewood, south on McAree, west on Yorkhouse, south on Green Bay, east on 10th Street, south on Dugdale and terminate at Woodland Village.

The performance of Route 573 is below Pace standards and changes to the route were proposed in the Lake County Transportation Market Analysis (TMA) prepared in 2012 for the Lake County Division of Transportation (LCDOT). This study recommended that Route 573 be converted into a deviating flexible route and incorporate the western part of Route 562.

This study examined the characteristics of the current Route 573 and other routes in the Waukegan area to suggest alternatives that could better allocate Pace's resources by improving system efficiency, travel times and service to areas of highest transit demand.

A Steering Committee composed of representatives from Pace, the Regional Transportation Authority (RTA), Chicago Metropolitan Agency for Planning (CMAP), City of Waukegan and Village of Beach Park reviewed the study results and provided feedback. Based on the transit characteristic findings and feedback from the Steering Committee, four service options were developed:

- Option A: This is a cost-neutral alternative in which Route 573 would remain the same, with a supplemental change to Route 562.
- Options B and C: These are both fixed route strategies with modifications to current routes.
- Option D: This option involves a new Call-n-Ride service with supplemental changes to Routes 562, 566 and 573.

While there was not unanimous consensus on a proposed alternative, there was agreement that the current Route 573 was not efficient and an alternative to the current service was desirable. Pace will consider the results of this study, including the proposed service alternatives and Steering Committee feedback, and determine the best course of action.

2 Introduction

The purpose of this study is to examine Pace bus service in the Green Bay Road corridor within the communities of Beach Park and Waukegan, Illinois, and determine if public transportation services should be adjusted to serve the existing needs of the community. The Pace bus route of greatest focus is Route 573, which originates at Woodland Village in Waukegan, travels west along 10th Street, north on Green Bay Road, east on York House Road and then circles back as shown in **Figure 2-1: Study Area Overview Map**.

The performance of Route 573 was brought to Pace's attention during the Lake County Transportation Market Analysis (TMA) prepared in 2012 for the Lake County Division of Transportation (LCDOT). One of the recommendations was to convert Route 573 into a deviating / flex route and incorporate the western part of Route 562. One of the goals of the Route 573 Green Bay Road Study is to develop proposed alternatives that could better allocate Pace's resources by improving system efficiency and travel times and overall providing better service to areas of highest transit demand.

This study also includes a reevaluation of the LCDOT recommendations supplemented by current ridership and performance data provided by Pace. Additionally, demographic and travel characteristics are provided which provide insight for where demand for public transportation is greatest. Service options have been developed based in part on this data for consideration and evaluation by Pace and the RTA.

Reportedly, the original purpose of instituting Route 573 was to provide coverage to the western portion of the Waukegan School District 60 which is bounded by Green Bay Road on the western edge. Pace provides a total of 52 daily school trips during weekdays that directly serve the Brookside and Washington campuses of the Waukegan High School system in the morning and afternoon. These school trips follow route patterns that deviate from the main alignments of six fixed routes to which they are assigned (Routes 561, 562, 566, 568, 569 and 572), and are available as a public service to all passengers. The school trip route alignments and associated student fare policy are set by inter-governmental agreements between the Waukegan School District and Pace. While Route 573 does not directly service either high school campus, it is there to extend coverage to the district boundaries.

The LCDOT study included an evaluation of travel markets, an analysis of existing transit service, and recommendations for transit service improvement and other planning studies. One of the recommendations involved replacing Route 573 with a demand responsive, deviating bus service. The study reported that the route carried an average of only 16 passenger trips per

day, an average of less than one rider per trip. The current ridership is 26 passenger trips per day, an average of less than three riders per trip. The LCDOT study also recommended eliminating the westernmost segment of Route 562, terminating it just west of McAree Road. Route 562 had very low ridership during the midday, and peak period ridership had fewer than 10 riders.

Figure 2-1 shows significant locations for generating transit such as Vista Medical Center West, Lake Plaza Shopping Center, Belvidere Mall Shopping Center and Waukegan High School – Brookside Campus.

The LCDOT study proposed demand responsive service that would deviate up to three-quarters of a mile from the current route and would include the Gurnee Industrial Park, about a mile from the route, as an allowable deviation. The LCDOT study proposed the following operating characteristics for the service¹:

- Service Hours: 6:00 am – 10:00 am; 2:30 pm – 6:30pm
- Frequency of Service: 80 minutes
- Peak Vehicles Required: 1
- Vehicle Type: 15-passenger with wheelchair accessibility
- Vehicle Hours of Service: 8 hours/day

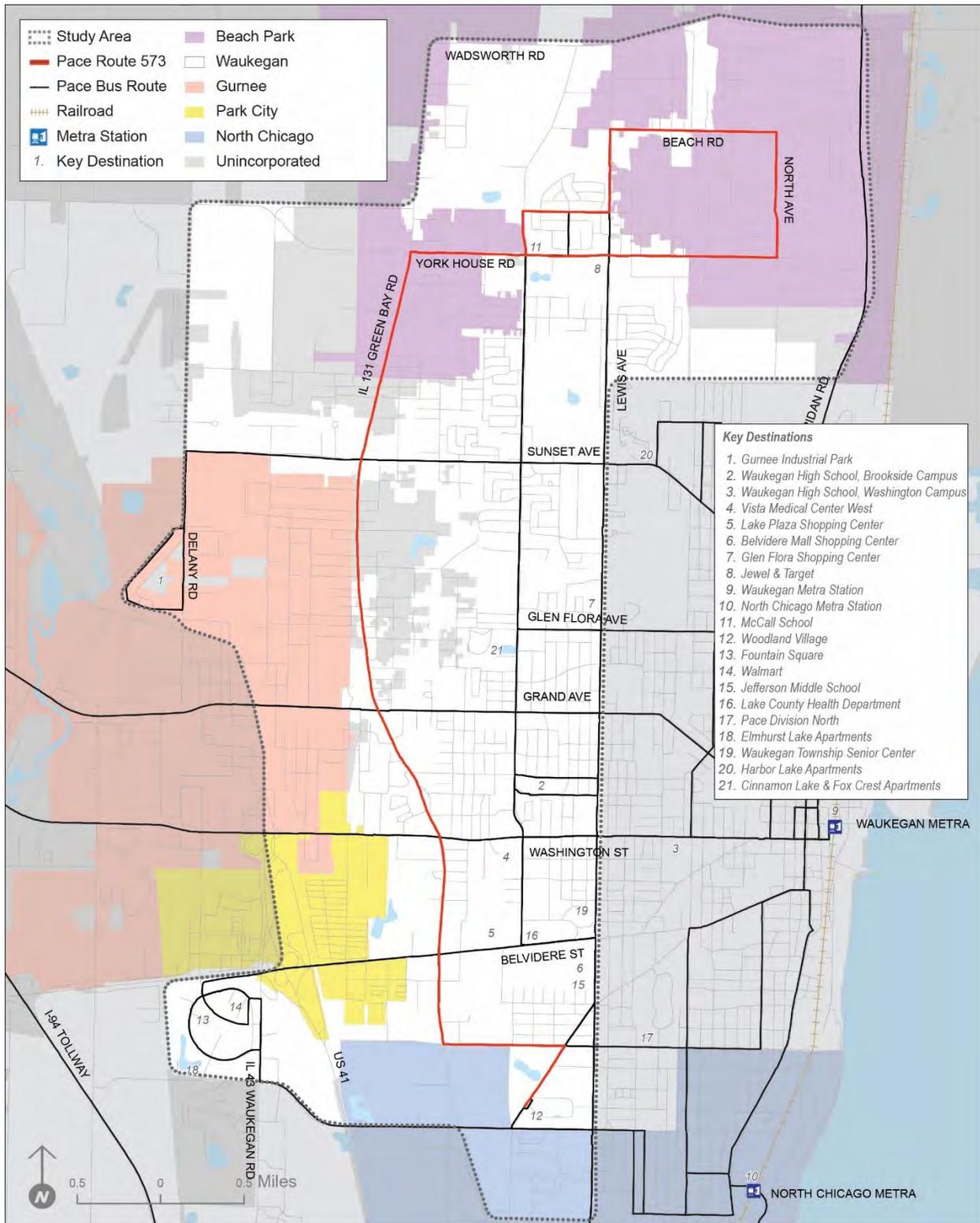
The 2011 Customer Satisfaction Survey conducted as part of the study provided some insight into characteristics of Pace riders and usage of services²:

- The majority (over 70 percent) of Pace users have lower incomes.
- Over 70 percent of passengers do not own cars or do not have access to an automobile.
- Most riders use Pace for multiple purposes and at different times of the day.

¹ *Lake County Transportation Market Analysis – Final Report, Table 9.12*

² *Op. cit.*, page 7-10

Figure 2-1: Study Area Overview Map



3 Transit Characteristics

This section describes characteristics associated with transit use in the Waukegan area which are presented to compare routes within the study area to one another. Current ridership information is presented to show underperforming services. Also provided is transit demand index and demographic information on a geographic basis. This information is used to illustrate areas with high and low tendencies for generating public transit users.

3.1 Waukegan Bus Routes Comparison

Pace bus routes and stop-level ridership for the Waukegan area are shown in **Figure 3-1**. This figure illustrates where transit rides are being generated along existing routes in the Waukegan area. Route 573 has very low ridership in comparison to other Waukegan area routes. Low ridership is defined as fewer than 7 riders per day per stop. Much of Route 573 has low ridership. Ridership on Route 573 is highest at locations where it happens to cross paths with other bus routes; however, there is little evidence of transfer activity between Route 573 and these routes. **Table 3-1** shows key performance characteristics for the Waukegan area routes.

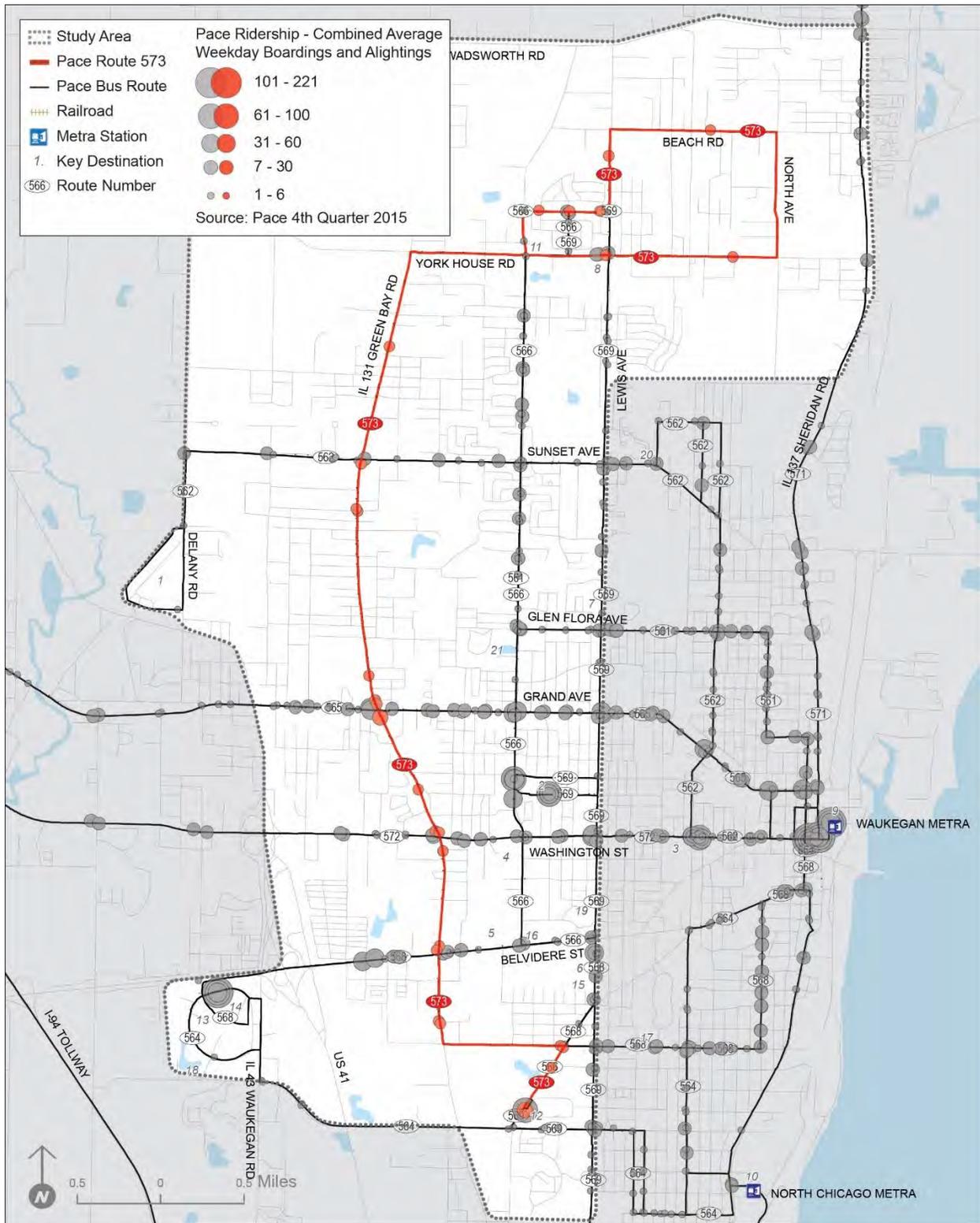
Table 3-1: Waukegan Area Pace Routes - Key Performance Characteristics

Route	Frequency (mins) Peak/Off Peak	Total Weekday Trips/Day	Buses /Day	Revenue Hours	Revenue Miles	2015 Daily Ridership	Daily Riders / Revenue Mile	Daily Riders / Revenue Hour
561	30/60	20/21	20	14	236	324	1.4	23
562	60/60	14/17	14	12	236	419	1.8	34
563	60/60	12/14	13	10	151	176	1.2	18
564	60/60	13/12	12	10	171	203	1.2	20
565	30/30	41/40	30	53	842	1,066	1.3	20
566	60/--	11/18	11	8	135	254	1.9	34
568	30/30	31/37	37	29	412	1,010	2.5	35
569	30/60	26/28	28	23	420	635	1.5	25
571	30/30	26/26	26	22	423	582	1.4	27
572	30/30	32/31	32	30	612	802	1.3	27
573	60/60	9/7	9	7	145	26	0.2	4

Data Source: Pace 4th Quarter 2015 Ridership Review. Revenue hour is the number of hours a bus is in service and able to pick up and drop off passengers.

In comparing Route 573 to the other Waukegan routes, it has the lowest daily ridership and also has fewer riders per revenue hour and mile than all other routes serving Waukegan.

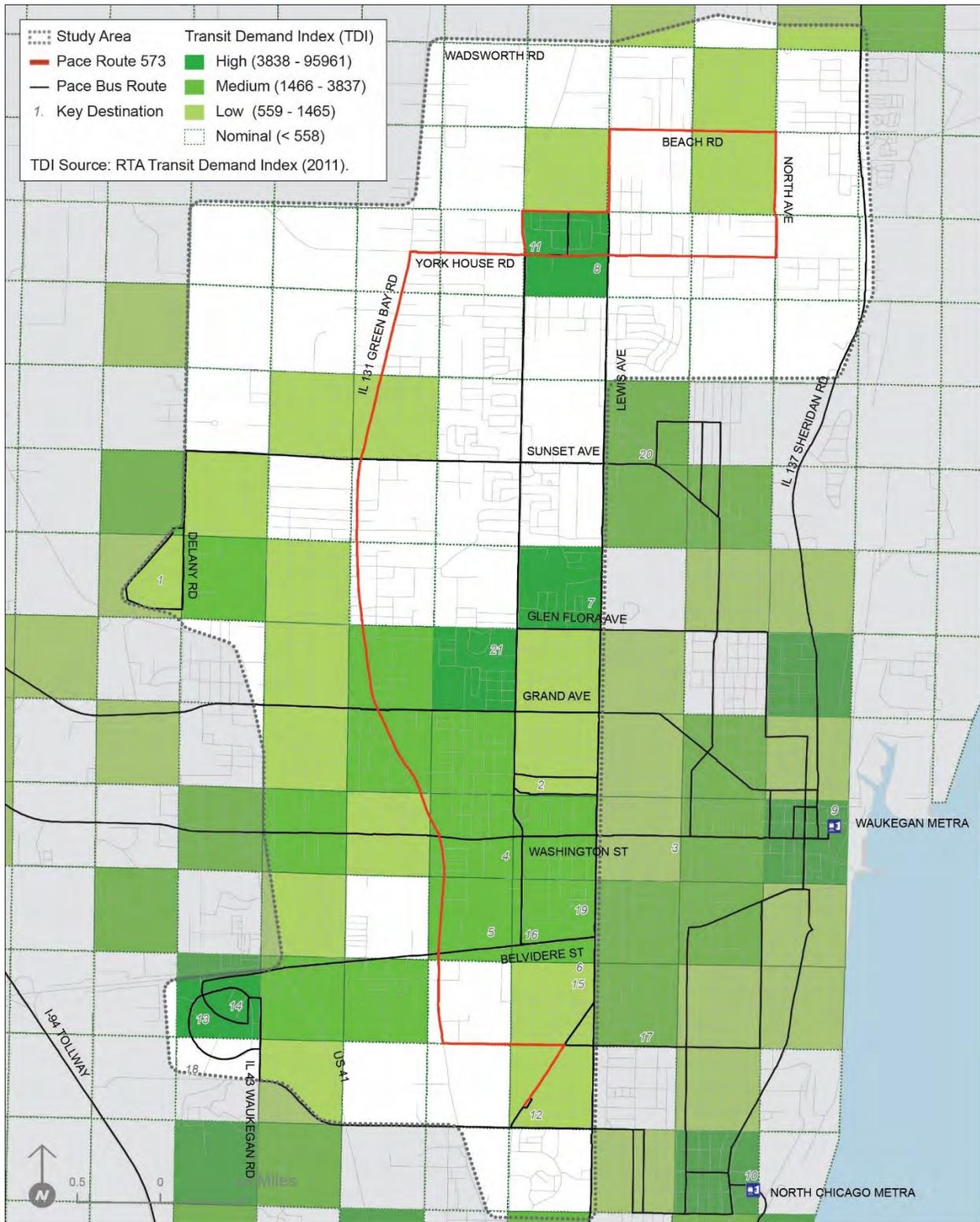
Figure 3-1: Pace Bus Routes and Ridership in Waukegan Area



3.2 Regional Transit Index

RTA has developed a transit demand index (TDI) which is a value that represents the relative transit demand of a transportation analysis zone based on transportation, demographic, and employment data. **Figure 3-2** shows the regional transit demand index as it relates to Pace Route 573 and other routes operating in the Waukegan area. The area bounded roughly by Belvidere Street to the south, Glen Flora Avenue to the north, Green Bay Road to the west, and Lewis Avenue to the east has the highest relative TDI within the study area. Comparatively, the northern part of the study area has mostly areas with low TDI.

Figure 3-2: Regional Transit Index for Study Area



3.3 Demographic and Commuting Trends

Data from the American Community Survey of the United States Census was gathered and reviewed to determine areas with high and low propensity for transit use. These indicators, much like the transit demand index, offer insight into factors that may indicate a demand for transit service.

Table 3-2 provides a list of census tracts in the study area and factors that generally contribute to the use of public transportation. The data from the American Community Survey for census tracts includes persons under 18 or over 65, those who use transit as their primary means of transportation to work, zero-car households, and families living below the poverty level. Of note, the LCDOT study suggested that two of the most important factors contributing to transit use in Lake County are households with no cars and families living below the poverty level.

In order to identify the census tracts with high indicating factors or propensity for transit use, the census tracts with the five highest values in each demographic category were highlighted. The total number of highlighted cells is shown in a separate column. Census tracts that are identified as high indicating factor are checked off in the far right column. In order to be identified as a high indicating factor, a census tract needed to: 1) be among the top five values for zero-car ownership or 2) be among the top five in number of families below poverty level and be among the top five values in two or more highlighted categories. The zero-car ownership and families living below the poverty level were considered as significant in deciding upon the high indicating factor because of the conclusions from the LCDOT study. An exception was made for census tract 8626.03. This census tract has 21% of the families living below poverty level. It was felt that this census tract needed to be identified as high indicating factor due to the poverty level alone.

Figure 3-3 shows the census tracts along with those identified for high indicator factors for transit use.

Table 3-2: Study Area Transportation and Demographic Data

Census Tract	Population	Population Under 18	Population Over 65	Transit to Work	Zero-Car Households	Families Below Poverty Level	Sum of Highlights	High Indicating Factor
8604.00	5,473	22%	9.6%	0%	0%	9.8%	0	
8606.00	7,192	23%	13%	3.2%	0.4%	4.8%	2	
8615.04	7,937	33%	1.4%	0.5%	2.4%	8.8%	1	
8615.07	3,022	25%	12%	1.1%	0.0%	7.6%	1	
8615.10	4,981	29%	8.9%	2.7%	4.1%	6.7%	1	
8617.01	2,059	19%	17%	0.5%	0.0%	3.0%	1	
8618.03	6,337	27%	7.6%	2.3%	2.7%	19%	0	
8618.04	3,393	35%	8.5%	0.6%	4.1%	14%	2	√
8619.01	4,270	23%	12%	3.9%	0.4%	3.4%	2	
8619.02	6,076	23%	11%	3.4%	5.3%	14%	2	√
8620.00	5,651	30%	6.9%	0.3%	1.6%	12%	0	
8626.03	8,212	30%	5.1%	0.4%	2.2%	21%	1	√
8626.04	4,733	28%	8.3%	3.5%	2.7%	20%	2	√
8626.05	4,865	35%	13%	5.7%	20%	47%	5	√
8628.00	2,221	42%	5.3%	2.2%	4.4%	27%	3	√
8661.00	3,689	34%	9.9%	1.8%	6.3%	27%	3	√
Notes: Highlights include top five census tracts in each category								

Data Source: American Community Survey 2014, United States Census. Selected Demographic Characteristics (S0101), Selected Economic Characteristics (DP03), Commuting Characteristics (S0801), Poverty Status in the Past 12 Months (S1701).

4 Transit Characteristic Findings

In reviewing the transit characteristics of the study area the following findings were made that are illustrated in **Figure 4-1**:

- 1) Ridership is low along most of Route 573 as shown in **Figure 3-1**. In **Figure 4-1** the areas along Route 573 and other routes in the study area with little or no ridership are highlighted in purple. Most areas of low ridership occur at midblock locations.
- 2) In the central part of Route 573 between Grand Avenue and Sunset Avenue, the roadway network lacks north-south roadways, which would limit the ability to reroute portions of Route 573 to the east along a north-south route.
- 3) Areas identified with the high Transit Demand Index in the study area are shown in **Figure 4-1**, they are primarily in the southern part of the study area.
- 4) Seven census tracts with high indicating factors for transit are outlined in **Figure 4-1**.
- 5) The northern part (north of Sunset Avenue) has low ridership and shows poor ridership potential based on the Transit Demand Index and high indicating factors.
- 6) The southern part of the study area between Grand Avenue and 14th Street has pockets of low ridership on the routes throughout the study area but shows high ridership potential based on the Transit Demand Index and high indicating factors.

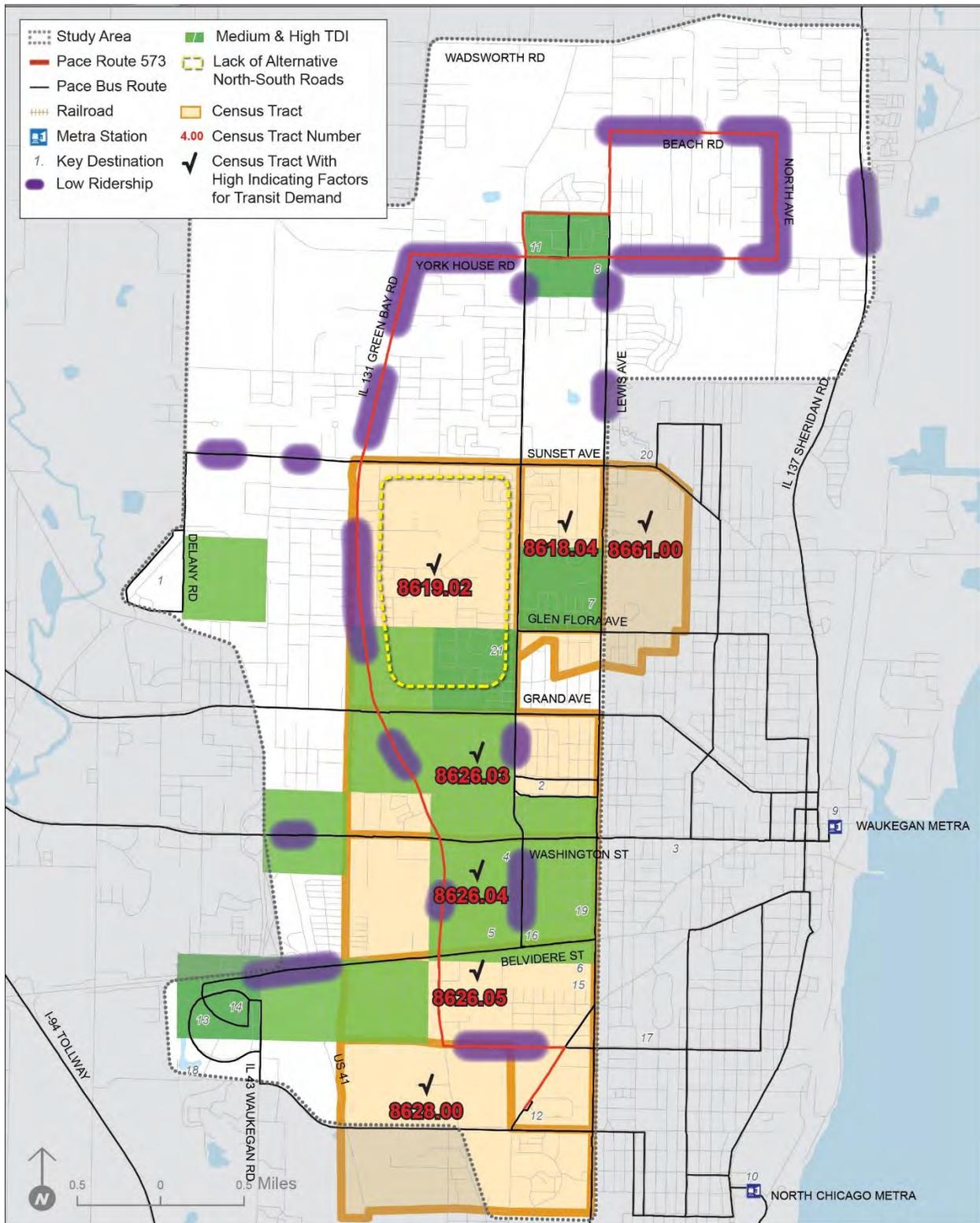
The above findings suggest that the southern part (south of Sunset Avenue) could be better served by transit. A flexible service in this area could be a better means of providing better service. The next part of this study will present alternative service concepts.

Based on feedback from the Steering Committee and consultation with the RTA and Pace, three alternative service options will be developed. Alternatives will include at least one flexible fixed-route option and one option that is cost-neutral. The service scenarios will include service areas and/or alignments, schedules, hours of operation, vehicle needs, and cost estimates. Each service option will address the control and administration of the new service, operator training, and communication to the public on using the new service. The service options will include estimates of ridership with demographic statistics and an analysis of the strengths and weaknesses of each option.

In evaluating the current conditions of the study area, the following preliminary options were developed, which may be used as components of the final three service alternatives:

- Retain Route 573 as it currently exists and make no changes
- Increase service on Route 573 and/or make adjustments to the route's alignment, service span, and/or frequency
- Replace Route 573 by adjusting existing services
- Convert Route 573 into a flexible service
- Convert Route 573 into a Call-n-Ride service with a defined geographic service area

Figure 4-1: Map of Findings



5 Plans and Studies Review

Transportation investments are guided by regional and local plans. Improved access to public transportation and an expansion of transportation options are consistent themes in regional and local planning documents that are summarized below. These plans provide an overall context for this study. The plan review also examines other ongoing planning efforts to determine if there are other efforts underway that should be coordinated with this study.

Pace Vision 2020 (2002)

The purpose of *Pace Vision 2020* is to improve efficient mobility throughout northeastern Illinois to meet the long range needs of the region by implementing new services and improved infrastructure. Improvements include expanding line-haul expressway/tollway routes to improve inter-suburban connections to transportation centers and major regional activity centers. Improved suburban mobility will assist in achieving local and regional transportation, economic and quality of life goals.

Regional Transportation Authority Strategic Plan (2013)

The Strategic Plan outlines goals and objectives for creating a world-class regional public transportation system that provides connections to employment, increases accessibility, and encourages transit-oriented development. Recommendations include expanding service and targeting marketing efforts at suburban employers near transit stations to grow suburb to suburb commutes. Long-term efforts include partnering with real estate developers and municipalities to promote transit-friendly communities and investments in transit priority treatments, such as transit signal priority and bus-on-shoulder as a cost-efficient alternative to rail expansion.

Chicago Metropolitan Agency for Planning GO TO 2040 (2010)

The Chicago Metropolitan Agency for Planning (CMAP) *GO TO 2040* Plan is organized into four themes as presented below. The plan recognizes expanded access to public transportation as essential for the success of the region.

1. **Livable Communities** – Investments in communities that create more compact, walkable, and mixed-use development with a range of housing options is essential for the future of the region. Land use that emphasizes improved access to transit and other transportation alternatives can help to reduce congestion and transportation costs for residents throughout the region.
2. **Human Capital** – Investments in public transportation infrastructure help attract a talented workforce for communities and the region. Improved transportation access to employment centers is critical to support the regional investments being made in education and workforce development.

3. Efficient Governance – Coordinated efforts between municipal, regional, and state government on transportation and land use plans is essential to meeting the recommendations of the Go to 2040 Plan. Investments in transportation that transcend boundaries will improve economic vitality and environmental quality.
4. Regional Mobility – Improvements to economic, environmental, and quality of life conditions are dependent upon an expansion of the regional bus system and investments in Transit Oriented Development (TOD). Recommendations include an expansion of park-and-rides, high quality bus stations, and express service on the region's multi-modal corridors, including I-90.

CMAP has initiated a process to update the regional plan. This planning effort called ONTO 2050 was initiated in 2016 and is expected to be completed in 2018.

CMAP currently is working with the Village of Beach Park on a planning priorities report with near-term strategies for the Village's leadership and appointed officials. The report will be completed in summer 2016.

Lake County Transportation Market Analysis (2012)

The Lake County Transportation Market Analysis involved an evaluation of travel markets, an analysis of existing transit service, and recommendations for transit service improvements and other planning studies. The study reviewed transit services and recommended changes throughout the county. Recommendations that have since been implemented and that are pertinent to this study of Green Bay Road include the following:

1. Route 570 was shortened to terminate at College of Lake County, (previously terminated at Gurnee Mills); while route 565, which had also terminated at Gurnee Mills, was extended to College of Lake County. Frequency on route 565 was improved to 30 minutes.
2. Route 572 was split into two routes. Route 572 now operates from downtown Waukegan to College of Lake County, while new route 574 operates over the south portion of old route 572, i.e., College of Lake County to Hawthorn Mall. (Note that the southern-most portion of old route 572, which operated south of the mall to Westmoreland, was eliminated.) Frequency on route 572 was improved to 30 minutes.
3. A new Call-n-Ride service was implemented for Mundelein/Vernon Hills.

One change implemented that was not recommended in the study was the extension of Route 573 to the York House/North/Beach/Lewis loop, which had previously been served by Route 561.

6 Service Options

This Section describes the development of service options for Route 573. Initially, five service options were developed by the consultant team, as described in **Section 6.1**, and submitted to the project Steering Committee for review and comment. **Section 6.2** explains the input and feedback received from the Steering Committee on the options. From this feedback, four options were further developed for evaluation in **Section 6.3**. These final options include a cost-neutral option, two fixed route options, and a flexible service option.

6.1 Initial Service Options

The information presented in the Transit Characteristics and Findings Sections guided the development of the initial service options that are listed in **Table 6-1**, shown in **Figure 6-1** and explained below.

Table 6-1 Initial Service Options

Option #	Description
1	Connect Routes 573 and 571 by extending 573 along York House Rd to Sheridan Rd
2	Terminate Route 573 at south end of Gurnee Industrial Park via Grand Ave and Skokie Highway and terminate Route 562 at The Preserve at Osprey Lake
3	Extend Route 573 to Fountain Square and eliminate service on the York House/North/Beach loop
4	New Call-n-Ride area replacing Route 573 north of Grand Ave and terminate Route 573 at Gurnee Industrial Park
5	New Call-n-Ride area along the current Route 573 south of York House Road and include the Fountain Square and Gurnee Industrial Park areas

Option 1

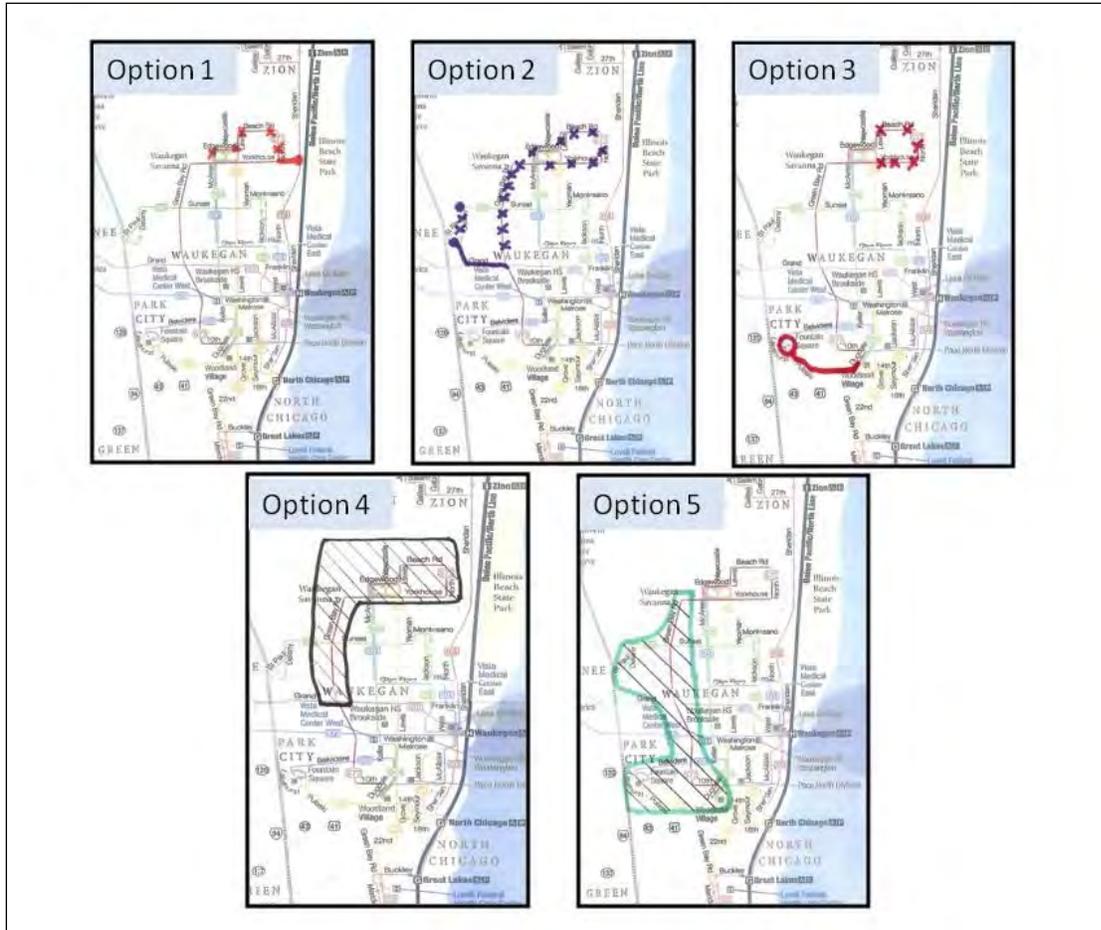
This option involved the reconfiguration of the north portion of Route 573 in order to connect with Route 571 at York House and Sheridan Roads. This connection would provide a more direct route to downtown Waukegan for Beach Park residents. However, residents along the north edge of the York House/North/Beach loop would lose transit access.

Option 2

This option eliminates Route 573 north of Grand Avenue and connects to the south end of the Gurnee Industrial Park via Grand Avenue and Skokie Highway. The purpose of this reroute is to connect Woodland Village with possible job opportunities in the industrial park. Route 562 is shortened in this option to terminate at The Preserve at Osprey Lake apartment

complex. This option eliminates service on Route 573 north of Grand Avenue, and on St Paul/Delaney in the industrial park.

Figure 6-1 Drawings of the Initial Service Options



Option 3

This option extends Route 573 to Fountain Square and eliminates the York House/North/Beach loop. This option benefits Beach Park residents as it provides a one-seat ride without a transfer to Fountain Square. Transit service in the loop area is removed.

Option 4

Option 4 proposes a Call-n-Ride service, which is a flexible service strategy. Pace has operated Call-n-Ride services since November 2008, which are reservation-based, curb-to-curb services for anyone within the designated service area. Option 4 involves a new Call-n-Ride area serving the north half of Route 573. The south half of Route 573 would terminate at Grand/Green Bay Road, or could travel to the south end of the Gurnee Industrial Park as in Option 2. The size of the proposed Call-n-Ride area is large (approximately 9 square miles) which is slightly larger than a typical Pace Call-n-Ride area. Moreover, it does not contain

many key destinations, or serve areas with a high Transit Demand Index, suggesting that ridership may remain low.

Option 5

Option 5 proposes a new Call-n-Ride area along the current Route 573 alignment south of York House Road that would include Fountain Square and the Gurnee Industrial Park. This Call-n-Ride area does not include the current York House/North/Beach loop. The proposed Call-n-Ride area provides transfer opportunities to many Pace bus routes.

6.2 Steering Committee Feedback

This section presents feedback from the project Steering Committee on the initial service options. The Steering Committee was composed of representatives from the Regional Transportation Authority (RTA), Pace, Chicago Metropolitan Agency for Planning (CMAP), Village of Beach Park, and City of Waukegan. The feedback was provided at a Steering Committee meeting and a questionnaire was used to gather additional input from CMAP, Beach Park and Waukegan.

During the Steering Committee meeting, an alternative routing for Option 1 was proposed in order to continue serving more of Beach Park. This alternative routing was to operate north on North Avenue to Beach Road (as the route currently operates) and then turn east on Beach Road to connect with Sheridan Road. Approximately six daily riders would be impacted by this change, but they would be no farther than five or six blocks from the proposed reroute. It was suggested that a timed transfer between Routes 573 and 571 is desirable if this change were implemented. CMAP noted east-west transit connectivity is consistent with CMAP's and Beach Park's ongoing Planning Priorities coordination project and that possible reroutes (or other strategies) should keep in mind the presence of potential development north and west of the route's current path. This includes approximately 1,100 homes in northwest Beach Park that currently lack transit access. There is a growing interest in providing transit to this fast-growing area.

None of the agencies supported Option #2, which would eliminate Route 573 north of Grand. An alternative version of this option was suggested that connected Route 573 with the industrial park in Waukegan located north of Sunset Avenue along Delaney Road. Waukegan commented that this alternative could expand the customer base and provide service to the local businesses. Meeting participants noted that industrial parks suffer from poor pedestrian facilities and uncoordinated shift times, which combine to adversely impact transit ridership. Option 2 reduces transit coverage and leaves many areas without transit access.

Beach Park was in favor of Option 3 because the extension to Fountain Square would be beneficial to village residents. However, they voiced concern regarding the complete loss of service to the York House/North/Beach loop area. The Village commented that their area has grown in population, which is not reflected in the 2010 Census. Specifically, the Cambridge

subdivision is a new, large development that contains senior housing and is not served by public transportation. It was noted that Woodland Village already has access to Fountain Square through Route 568 and that this option would duplicate that service.

The Steering Committee meeting participants thought the concept of a new call-n-ride area was interesting as proposed in Options 4 and 5. Questions were raised regarding the cost of call-n-ride services and Pace noted that call-n-ride productivity is typically low and costs are higher than a fixed route. Concerns were raised regarding the lack of destinations in the call-n-ride area of Option 4 and the loss of service in Option 5 to the York House/North/Beach loop. A suggested modification to Option 5 was to include the Waukegan industrial area along Delaney Road north of Sunset Avenue.

The Steering Committee discussed potential combinations of Options 1 - 5 including combining and refining options 2 and 4, combining and refining options 1 and 5 with a connection to Wadsworth Road to draw ridership to the Illinois Beach State Park and Conference Center, and a new option to serve the Waukegan industrial area on Delaney Road north of Sunset Avenue. These combinations were included in the questionnaire as Options 6, 7 and 8 respectively. Beach Park felt that the focus of the study should be on residential services and that Option #8 should serve residents as well as businesses. CMAP proposed a routing for Option #8 via Delaney Road north to York House Road, York House Road east to Green Bay Road, Green Bay Road north to Wadsworth Road, Wadsworth Road east to Sheridan Road. This routing does include service to many desired destinations including the Waukegan industrial area, new developments in Beach Park, and a connection to Sheridan Road. However, analysis subsequent to the meeting showed that this extension would require another bus in the schedule, increasing operating costs by too great a margin.

Subsequent to the Steering Committee discussion, the options were revised and a questionnaire prepared (see **Attachment A**). The results of the questionnaire are shown in **Attachment B**. The individual members from each agency grouped their responses, so that one response was received from each of the following: Waukegan, Beach Park, and CMAP.

In the final project team assessment, more consideration was given to the feedback provided from the communities of Beach Park and Waukegan with CMAP's feedback primarily serving as advisory given the agency's role as a regional planning organization. Additionally, the project team focused on the specific components of each option that the communities supported, regardless of whether or not they were overall in support of the original options. This was done to ensure that the beneficial aspects of each option were captured.

The Steering Committee feedback has been summarized and organized into the following four objectives that aided in the development of the final service options:

- Direct connection between Fountain Square and Beach Park residents
- Service to the Waukegan industrial district north of Sunset along Delaney Road
- Service to the Cambridge subdivision
- Retain some level of service to the York House/North/Beach area

6.3 Final Service Options

This section presents four service options that were developed based on feedback from the Steering Committee:

- Option A: This is a cost-neutral alternative in which Route 573 would remain the same, with a supplemental change to Route 562.
- Options B and C: These are both fixed route strategies with modifications to current routes.
- Option D: This option involves a new Call-n-Ride area with supplemental changes to Routes 562, 566 and 573.

Each option includes a route description, map, schedule, running time, average frequency, span of service, vehicle (bus) requirements, ridership and cost estimates. The operating cost estimates for each option assumes a cost per revenue vehicle hour of \$66.39 and uses revenue vehicle hours produced by the schedule for each option.

Option A – Cost-Neutral

Option A is the cost-neutral alternative and retains Route 573 in its current form, see **Figure 6-2**. The route would continue to provide weekday rush hour service between Woodland Village and Edgewood/Newcastle, primarily along Green Bay Road. Service would continue to be operated every 60-minutes during peak periods only.

Option A is essentially a do-nothing option for service affecting Route 573 and the Green Bay Road corridor, however it includes a change to Route 562, which may improve productivity and still retain Option A as a cost-neutral alternative. This change reconfigures Route 562 to operate north on Delaney Road to York House Road, east on York House to Oak Grove Avenue, which curves southwest returning to Delaney Road.

A schedule replicating the existing service level is presented in **Attachment C**, and the route characteristics are shown in **Table 6-3**.

Table 6-2 Option A Route Characteristics

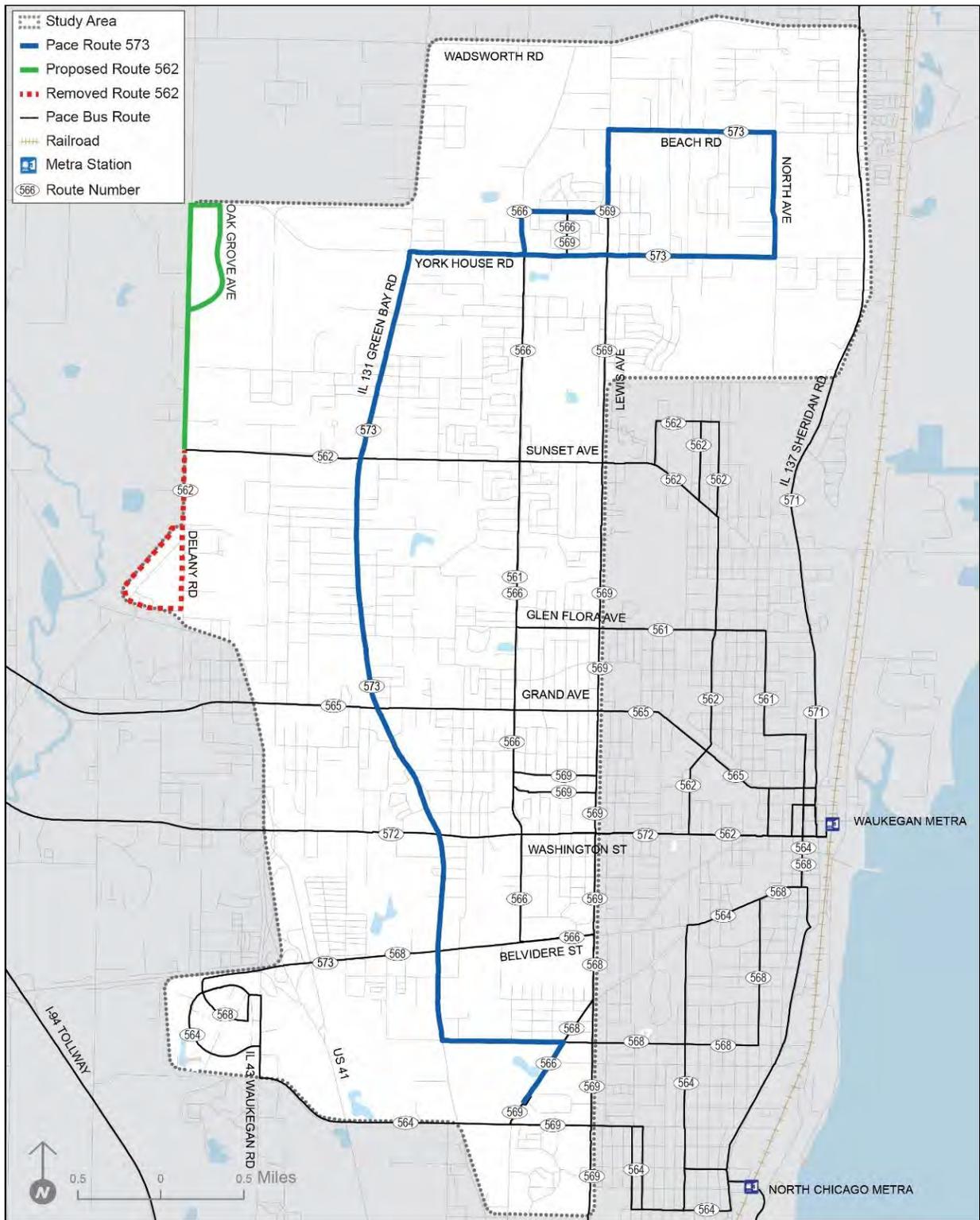
Service Characteristic	Levels/Amounts
Span of Service	Weekdays 5:32a-9:44a & 3:32p -7:00p
Average Frequency	58 minutes
Average Running Time	NB=27.5 minutes, SB=20.5 minutes
Additional Peak Vehicle Requirement	0
Weekday Ridership	26
Annual Operating Cost	\$119,635

This alternative is cost-neutral because the round trip travel time to York House/Delaney is only two minutes more than to St. Paul/Delaney. These two minutes are easily accommodated in the route's current, excess recovery time.

The proposed change to Route 562 would have the following impacts:

- Addresses the Steering Committee's desire to serve the Waukegan industrial park on Delany Road
- Eliminates the current unproductive Route 562 alignment through the Gurnee Industrial Park.
- Would serve the Hickory Manor, Village Park and Willow Wind Apartments, which may attract more ridership than the current routing through the Gurnee Industrial Park.

Figure 6-2 Option A - Cost-Neutral (Current Route 573)



Option B - Restructured Route 573

Option B, shown in **Figure 6-3**, involves having Route 573 operate between Fountain Square and Sheridan/Ford northbound via Belvidere Road, Green Bay Road, York House Road, North Avenue, Beach Road, Coolidge Avenue, Ford Avenue and Sheridan Road. Returning southbound on Sheridan to Beach and then following the same routing as above in the reverse direction.

The proposed change to Route 573 would have the following impacts:

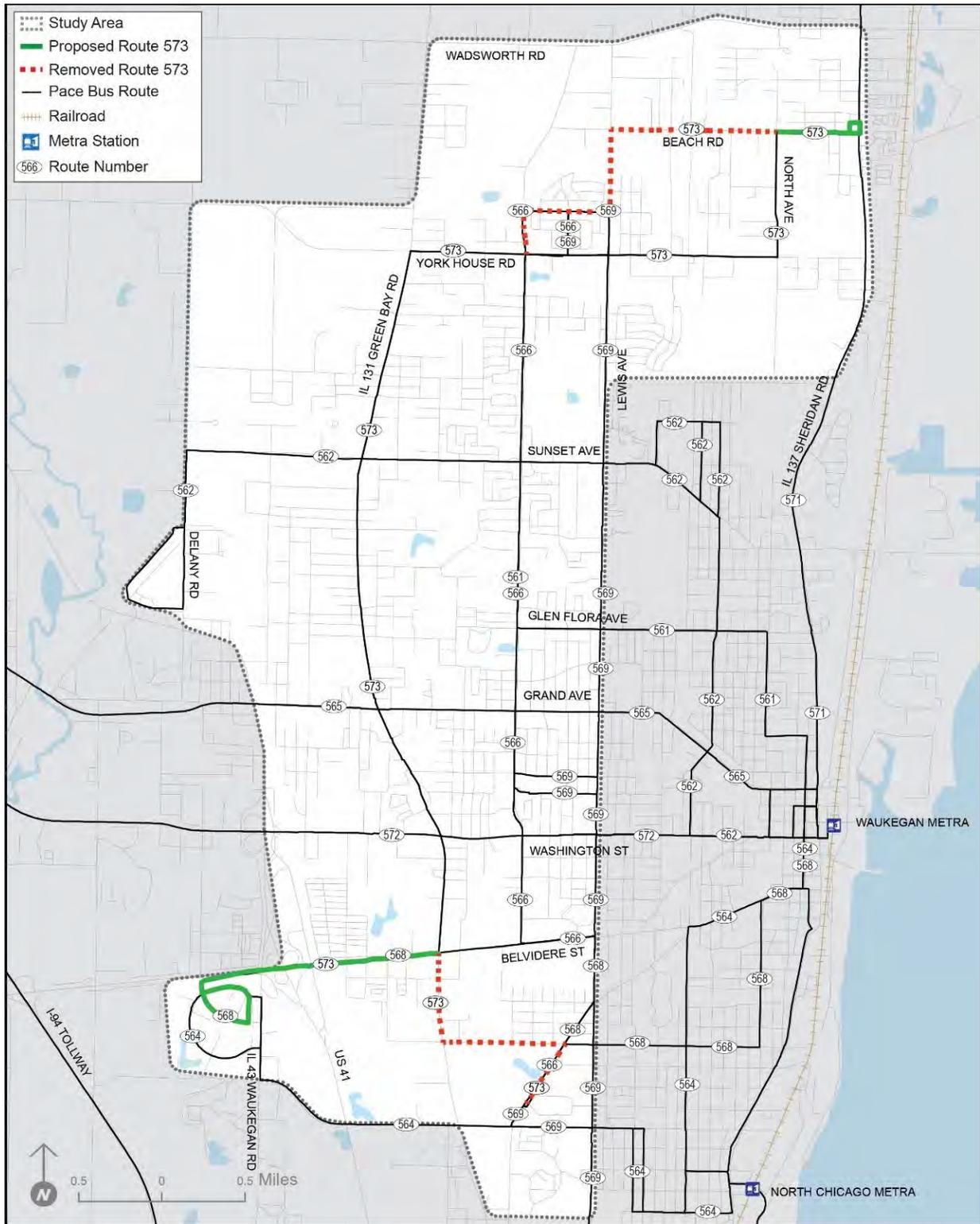
- Addresses the Steering Committee feedback to directly connect Beach Park residents with Fountain Square.
- Retains some level of service to the York House/North/Beach area.
- While approximately 4 route miles of current service is eliminated, as shown with dashed red lines in **Figure 6-3**, a little over half a mile is added on Beach Road, Coolidge and Ford Avenues and approximately 2.3 miles is added between Green Bay Road/Belvidere Street and Fountain Square.
- Although more route miles are eliminated than are added, the total vehicle miles (and costs) increase because the eliminated route miles are primarily one directional miles on the York House/North/Beach loop, whereas the added route miles are all two directional.

A proposed schedule for Option B is presented in **Attachment D**, and the route characteristics are shown in **Table 6-3**.

Table 6-3 Option B Route Characteristics

Service Characteristic	Levels/Amounts
Span of Service	Weekdays 5:25a-10:00a & 3:30p -7:08p
Average Frequency	62 minutes
Average Running Time	NB=27 minutes, SB=27.5 minutes
Additional Peak Vehicle Requirement	0
Weekday Ridership	26
Annual Operating Cost	\$130,075

Figure 6-3 Option B - Reconfigure Route 573 Fountain Square to Ford/Sheridan



Ridership for Option B was estimated in a two-step process. First, Route 573 average daily ridership was reduced by the number of current riders on the eliminated portions of the route. Next, the number of riders anticipated on the Route 573 extensions to Fountain Square and Sheridan Road were estimated based on current stop-level ridership for Routes 564 and 568, which both terminate at Fountain Square.

The number of riders on the two routes that currently board in the Fountain Square vicinity, compared to the routes' total boardings, provides an indication of the market potential of Fountain Square for Route 573. Approximately 13 percent of current Route 568 riders board between Fountain Square and Green Bay Road, and approximately 14 percent of Route 564 riders board at Fountain Square. The average of these two proportions was applied to Route 573 ridership.

This results in a ridership estimate for Option B that is the same as the current ridership on Route 573. It was expected that Option B would result in increased ridership, but this is not the case. It may be that the Green Bay Road corridor does not have sufficient density or attractions to support fixed-route service.

The operating costs of this option are only slightly more (\$15,725) than current at \$195,925 annually. This is due to the slightly expanded hours of service.

Option C - Restructured Routes 566 and 573

Option C, as shown in **Figure 6-4**, reconfigures Route 573 to operate between Fountain Square and Cambridge subdivision northbound via Belvidere Road, Green Bay Road, Wadsworth Road, Cambridge Blvd, and Wakefield Drive to Green Bay Road. The return route is southbound via Green Bay Road to Belvidere Road and Fountain Square. In order to retain some service to the York House/North/Beach area, Route 566 is extended from York House/Newcastle to Ford/Sheridan via York House Road, North Avenue, Beach Road, Coolidge Avenue, and Ford Avenue.

The proposed changes to Routes 566 and 573 in this option would have the following impacts:

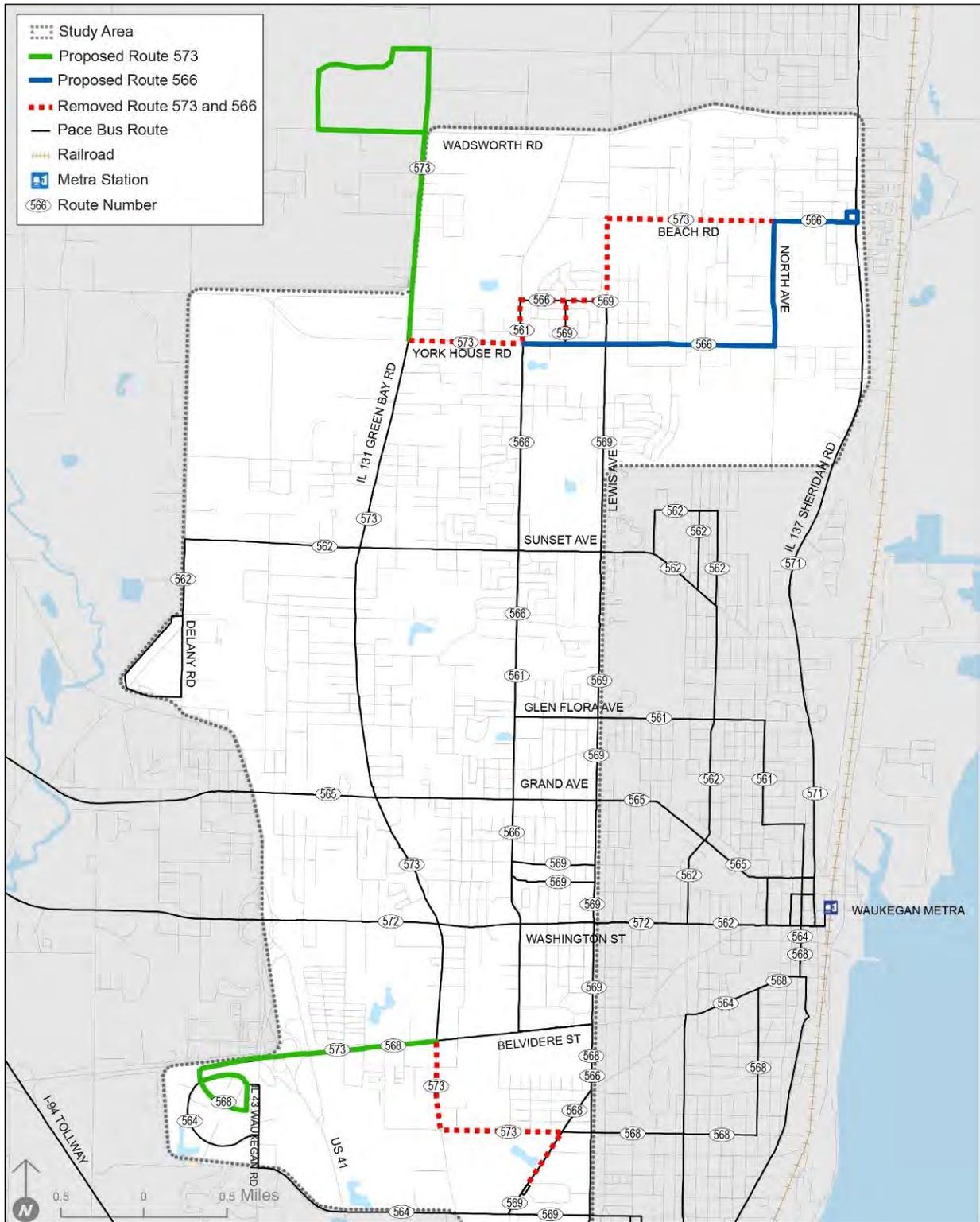
- Addresses the Steering Committee feedback by directly connecting the Cambridge subdivision and west Waukegan residents with Fountain Square. The routing through the Cambridge subdivision on Cambridge Boulevard and Wakefield Drive is necessary to turn the bus around. In addition, there are no sidewalks on Wadsworth or Green Bay Roads, which creates a challenge for pedestrians outside the subdivision.
- Continue to provide service to residents in southeast Beach Park.
- While approximately 3.4 route miles of service is eliminated with this option as shown with a dashed red line in **Figure 6-4**, approximately 3.8 route miles are added on Beach Road, Coolidge and Ford Avenues, and along Green Bay Road, Wadsworth Road, Cambridge Boulevard and Wakefield Drive.

- Ridership for Route 573 will increase slightly due to the connection to Fountain Square and the high population density of Cambridge subdivision.
- Residents living along Green Bay Road south of the subdivision will also have direct service to the Wal-Mart and other businesses in Fountain Square.

Table 6-4 Option C Route Characteristics

Characteristic	Route 573 Option C	Route 566 Option C
Span of Service	Weekdays 5:25a-9:30a & 3:30p -6:47p	Weekdays 6:09a-9:19a & 3:09p -6:46p
Average Frequency	62 minutes	50 minutes
Average Running Time	NB=27 minutes SB=27.5 minutes	NB=24.5 minutes SB=25.5 minutes
Additional Peak Vehicle Requirement	0	0
Weekday Ridership	30	269
Annual Operating Cost	\$116,813	\$170,423

Figure 6-4 Option C - Reconfigure Route 573 Fountain Square to Cambridge Subdivision



Ridership for the reconfigured Route 573 was estimated by first subtracting the number riders boarding along the eliminated portions of the route. Ridership for the Cambridge subdivision and Fountain Square extensions was then added. Ridership north of York House Road is estimated based on the number of households within one block of the new route, multiplied by the average household size of 2.7 persons³, and then multiplied by a mode share of 2 percent.⁴

The result is an estimated 13 daily riders generated by the north extension. To estimate ridership for the Fountain Square extension, the estimated ridership between Cambridge subdivision and Belvidere/Green Bay Road was increased by the proportion generated from Routes 564 and 568 as determined in Option B.

The Route 566 extension will take over portions of Route 573 that were abandoned in order to serve Cambridge subdivision. The riders associated with the previous Route 573 alignment will transfer to Route 566.

Proposed 566 and 573 schedules for Option C are presented in **Attachment E** and the route characteristics are shown in **Table 6-5**.

Option D – Call-n-Ride and Associated Restructuring on Routes 562, 566 and 573

Option D (see **Figure 6-5**), eliminates Routes 566 and 573 entirely, realigns Route 562, and introduces a new Call-n-Ride service area.

Call-n-Ride is a reservation-based, curb-to-curb, shared-ride service available to anyone within the designated service area. Call-n-Ride services typically operate in areas with low density, poor street networks, or other attributes that discourage fixed-route ridership and residents still require public transportation.

Call-n-Ride services are operated as follows: Riders call to reserve trips at least one hour in advance and are picked-up and dropped-off anywhere within the Call-n-Ride zone. For example, a resident at Sunset and McAree could call in the morning to reserve a ride to Fountain Square in the afternoon. Fares are the same as for regular Pace fixed-route service. The Call-n-Ride service will operate between approximately 6:00 am to 7:00 pm.

The proposed boundaries of the Call-n-Ride area are York House on the north plus the current turnaround area of Lewis/Edgewood/McAree and east to De Woody Road, Green Bay Road on the west plus the Waukegan industrial district and Fountain Square, 14th Street on the south plus Woodland Village, and McAree/Keller on the east. This area encompasses approximately 8.1 square miles. Most of the route miles currently operated by Routes 566 and 573 will be included in the new Call-n-Ride service area, as would part of Route 562.

³ 2014 American Community Survey 5-Year Estimates.

⁴ CMAP Policy Update, Transportation Mode Share in the CMAP Region, December 3, 2015.

As shown in **Figure 6-5**, Route 562 will operate westbound over its regular route until reaching Lewis Avenue, where the route will turn north to York House Road, east to North Avenue, north on North Avenue to Beach Road, east on Beach Road to Coolidge Avenue, north on Coolidge Avenue to Ford Avenue, and east on Ford to Sheridan Road.

The new Call-n-Ride and changes to Routes 562, 566 and 573 would have the following impacts:

- New service would be provided to the Waukegan industrial park on Delaney Road north of Sunset Avenue via the Call-n-Ride, which the Steering Committee indicated was a desired service element.
- Transfers will be possible between the Call-n-Ride and Routes 561, 562, 564, 565, 568, 569 and 572.
- A new connection to Fountain Square would be provided for Beach Park residents via the Call-n-Ride service.
- The Call-n-Ride service would provide passengers and others living and working within the area with midday transit service that is currently unavailable.
- Route 562 would be reconfigured to continue providing service to southeast Beach Park (currently being provided by Route 573), with an additional benefit of providing a new transit connection to downtown Waukegan.
- The proposed eliminated section of Route 562 along Sunset and within the Gurnee Industrial Park would be served instead by the proposed Call-n-Ride service.
- School trips to Montesano Avenue along Linden Avenue and Jackson Street would be retained during the peak periods.

Route 573 ridership and productivity levels indicate that this corridor may be better suited for Call-n-Ride service. Although Route 566 attains the current productivity goal, it is proposed for elimination along with Route 573 because it is within the projected Call-n-Ride service area and has relatively low service levels. Approximately 80 percent of the current boardings on Route 566 occur at the two Waukegan high school campuses – Brookside and Washington. For this reason, the current school trips scheduled on Route 566 will continue to operate in Option D, albeit by being re-assigned to Route 561 or 562. The operating cost estimate in **Table 6-6** includes the costs of these school trips.

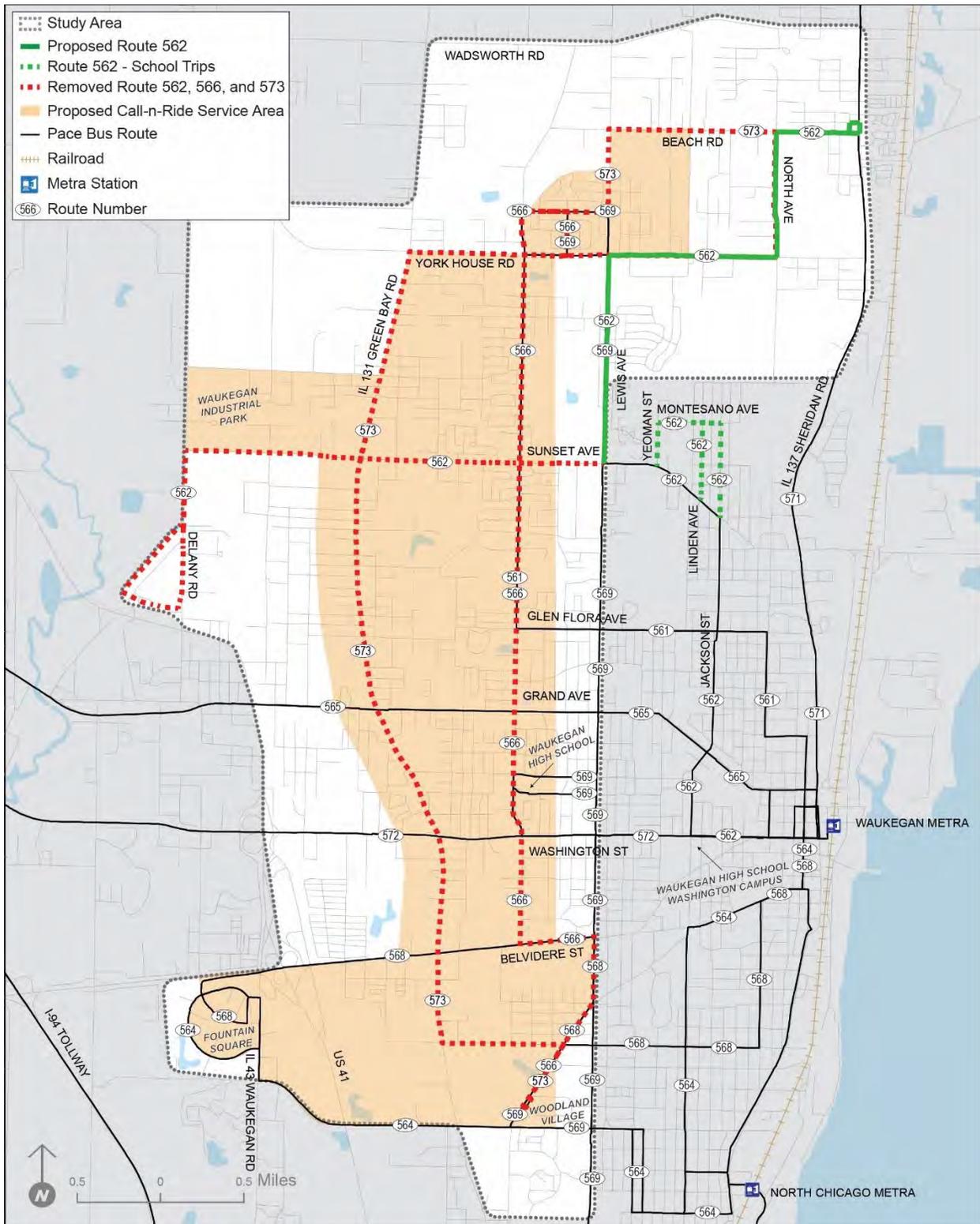
A draft schedule for the reconfigured Route 562 is supplied in **Attachment F**, and the route characteristics are shown in **Table 6-6**.

Table 6-5 Option D Route Characteristics

Characteristic	Option D Call-n-Ride	Route 562 Option D
Span of Service	Weekdays 5:30a-6:30p	Weekdays 6:02a-6:29p
Average Frequency	reservations	60 minutes
Average Running Time	Depends on trip origins & destinations	NB=23 minutes SB=23 minutes
Additional Peak Vehicle Requirement	-3 (Fixed-Route) +1 (Call-n-Ride)	0
Weekday Ridership	73	394
Annual Operating Cost	\$220,083 + school trips @ \$29,265	\$244,913

The Call-n-Ride ridership estimate assumes that current, non-school riders on routes 562, 566 and 573 in the call-n-ride zone will switch to the Call-n-Ride service. This Call-n-Ride option results in savings to vehicle requirements and operating costs due to the elimination of Routes 566 and 573. The total costs for the Call-n-Ride include the operation of school trips, and results in an operating savings of approximately \$31,000 per year. However, the cost of the Call-n-Ride may be underestimated due to the use of the same cost per revenue hour as the fixed-route service.

Figure 6-5 Option D - Call-n-Ride and Reconfigure Route 562



7 Final Service Options Evaluation

This section evaluates the final service options presented in **Section 6-3**. A summary denoting which options met the four objectives as suggested by Steering Committee feedback is presented, as is a review of the service characteristics and productivity of each option.

Table 7-1 lists the objectives derived from Steering Committee feedback, and shows with a checkmark the objectives that were achieved with each option. None of the options achieves all four of the desired objectives, but Options C and D each meet three of them. All of the options retain some level of service to the York House/North/Beach area. Only Option C attains the objective of providing service to the Cambridge subdivision.

Table 7-1 Achieved Objectives by Option

Objectives	Option A	Option B	Option C	Option D
Direct connection between Fountain Square and Beach Park residents		✓	✓	✓
Service to the Waukegan industrial district north of Sunset along Delaney Road	✓			✓
Service to the Cambridge subdivision			✓	
Retain some level of service to the York House/North/Beach area	✓	✓	✓	✓
✓ objective met				

Table 7-2 shows the service characteristics of each option by route. None of the options differs significantly from each other, and specifically none of the proposed options generates significantly more riders than the current situation.

Options B and C show only marginal changes from the current conditions reflected in Option A. Option D has the greatest change in span of service, buses required, daily riders, and annual operating cost. The Call-n-Ride proposed in Option D eliminates two bus routes, which reduces bus requirements and annual operating costs, while improving the span of service. Daily ridership does not change appreciably between options and remains in the neighborhood of 700 riders per day, (three routes combined), for all the options.

In reviewing route productivity, 3rd Quarter 2015 data is utilized because it reflects productivities without the benefit of school-related ridership. Since all options, including the

Call-n-Ride, will retain fixed-route school trips, productivity during non-school times better illustrates the differences between routes. Current route productivity is 25 passengers per revenue hour for Route 562, and 18.9 passengers per revenue hour for Route 566, which exceed the Pace productivity objective for fixed route service of 9.2 passengers per revenue hour. The productivity for Route 573 is only 4 riders per revenue hour. Route 573 productivity improves in Option C to 4.6, but is still well below the Pace objective. The productivity for the Call-n-Ride service is projected at approximately 8 riders per revenue hour, which would exceed the Pace Call-n-Ride objective of approximately 4 riders per revenue hour.

Table 7-2 Service Characteristics by Option

Options	Span of Service	Ave Frequency (minutes)	Ave Run Time (minutes)	Vehicle Requirements	Daily Riders	Annual Operating Cost	Annual Revenue Vehicle Hours	Annual Revenue Vehicle Miles
Option A								
573	Rush only	58	24	1	26	\$119,635	1,802	38,109
566	Rush only	41	20	2	254	\$158,008	2,380	35,577
562	6a-6:30p	60	24	1	419	\$247,734	3,731	57,392
Total A	-	-	-	4	699	\$525,377	7,914	131,080
Option B								
573	Rush only	60	27	1	26	\$130,075	1,959	39,711
566	Rush only	41	20	2	254	\$158,008	2,380	35,577
562	6a-6:30p	60	24	1	419	\$247,734	3,731	57,392
Total B	-	-	-	4	699	\$535,817	8,071	132,682
Option C								
573	Rush only	56	23	1	30	\$116,813	1,759	34,570
566	Rush only	43	24	2	269	\$170,423	2,567	46,088
562	6a-6:30p	60	24	1	419	\$247,734	3,731	57,392
Total C	-	-	-	4	718	\$534,970	8,058	138,052
Option D								
Call-n-Ride	6a-7p	as reserved	varies	-3 buses, +1 CNR vehicle	100	\$220,083	3,315	Not estimated
562	6a-6:30p	60	23	1	394	\$244,913	3,689	56,569
School trips	-	-	-	0*	207	\$ 29,265	441	7,607
Total D	-	-	-	-2 bus, +1 CNR vehicle	701	\$494,261	7,445	64,176
*Note: bus requirements do not include school trips								

8 Findings and Next Steps

Ridership along most of Route 573 is very low and this study examined the basis for the poor performance and suggested alternatives that could better allocate Pace's resources by improving system efficiency, travel times, and service to areas of highest transit demand. The issues with Route 573 were highlighted in the Lake County Transportation Market Analysis prepared in 2012 for the Lake County Division of Transportation. This study built off that study's findings.

A project Steering Committee, composed of representatives from Pace, RTA, CMAP, Village of Beach Park, and City of Waukegan provided input during the course of the study. Based on the transit characteristic findings, feedback from the Steering Committee and consultation with the Pace and RTA, four service options were developed:

- Option A: This is a cost-neutral alternative in which Route 573 would remain the same, with a supplemental change to Route 562.
- Options B and C: These are both fixed route strategies with modifications to current routes.
- Option D: This option involves a new call-n-ride area with supplemental changes to Routes 562, 566 and 573.

The Village of Beach Park, City of Waukegan and CMAP reviewed the final four options and submitted comments.

While there was not unanimous consensus on a proposed alternative, there was agreement that the current Route 573 was not efficient and an alternative was desirable. Pace will consider the results of this study, including the proposed service alternatives and Steering Committee feedback, and determine if and when any of the final service options should be implemented.

Attachment A – Questionnaire on Initial Service Options

Pace 573 Green Bay Road Study
Potential Service Strategy Questionnaire

Instructions: For each transit strategy shown below, please state whether you generally support, generally do not support, or have no opinion. For each strategy, there also is a free response area so that you can express your reasons for or against a strategy. Your comments in the free response area will help us identify which parts of the strategy you like or dislike, and in what combinations or contexts this strategy is desirable or not desirable for you. All fields on this form are optional, and the check boxes can be checked or unchecked with a click.

Strategy #1: Reconfigure north portion of Route 573.

- Generally Support
- Generally Do Not Support
- No Opinion

Free Response Area:

Strategy #2: Eliminate path of 573 north of Grand Avenue, serve Gurnee Business Park along Delany Road.

- Generally Support
- Generally Do Not Support
- No Opinion

Free Response Area:

Strategy #3: Eliminate north loop and modify southern portion of Route 573 to serve Fountain Square.

- Generally Support
- Generally Do Not Support
- No Opinion

Free Response Area:

Strategy #4: Call-n-ride option serving the north half of Route 573.

- Generally Support
- Generally Do Not Support
- No Opinion

Free Response Area:

Strategy #5: Call-n-ride service area serving the western and southern portions of Route 573, including connections to Fountain Square.

- Generally Support
- Generally Do Not Support
- No Opinion

Free Response Area:

Strategy #6: A combination and modification of strategies 2 & 4

- Generally Support
- Generally Do Not Support
- No Opinion

Free Response Area:

Strategy #7: A combination and modification of strategies 1 & 5

- Generally Support
- Generally Do Not Support
- No Opinion

Free Response Area:

Strategy #8: A new strategy serving Waukegan industrial areas along Delany Road north of Sunset Avenue.

- Generally Support
- Generally Do Not Support
- No Opinion

Free Response Area:

Your name (optional):

Attachment B – Questionnaire Responses

Route Options	Beach Park	Waukegan	CMAP
Option 1: Reroute north portion of 573			
Generally Support	X		
Generally Do Not Support			
No Opinion		X	X
Option 2: Eliminate 573 north or Grand			
Generally Support			
Generally Do Not Support	X	X	X
No Opinion			
Option 3: Extend 573 to Fountain Sq & eliminate north loop			
Generally Support	X		
Generally Do Not Support		X	
No Opinion			X
Option 4: Call-n-ride for north half of 573			
Generally Support	X		
Generally Do Not Support		X	X
No Opinion			
Option 5: Call-n-ride including Fountain Sq & eliminate 573 north loop			
Generally Support	X		
Generally Do Not Support		X	X
No Opinion			
Option 6: Combination of Options 2 & 4			
Generally Support	X		
Generally Do Not Support		X	X
No Opinion			
Option 7: Combination of Options 1 & 5			
Generally Support	X		
Generally Do Not Support		X	X
No Opinion			
Option 8: Serve Waukegan industrial district on Delaney Road north of Sunset			
Generally Support		X	X
Generally Do Not Support	X		
No Opinion			

Attachment C - Current Route 573 Schedule

Pace Route 573 Current		Weekday					
Total annual rev vehicle hrs	1802:00:00	Peak Buses =	1				
Total annual rev vehicle mi	38,109.75	20% Spares =	1				
		Fleet Size =	2				
Schedule Inputs							
Headway 1	0:54:00	Running Time	0:26:00	wkday rev hrs	7:04:00		
Headway 2	0:55:00	Running Time	0:21:00	wkday rev mi	149.45		
Headway 3	0:56:00	Running Time	0:28:00				
Headway 4	0:58:00	Running Time	0:19:00	annual rev hrs	1802:00:00		
Headway 5	0:59:00			annual rev mi	38109.75		
Headway 6	1:01:00						
Headway 7	1:03:00						
Weekday Pace Route 573 Current							
	Lv Woodlnd V	Ar Edg/Nwcstl	Rec time	Lv Edg/Nwcstl	Ar Woodlnd V	Rec time	Lv next trip
	5:32 AM	5:58 AM	0:03:00	6:01 AM	6:22 AM	0:05:00	6:27 AM
	6:27 AM	6:55 AM	0:02:00	6:57 AM	7:16 AM	0:05:00	7:21 AM
	7:21 AM	7:47 AM	0:05:00	7:52 AM	8:11 AM	0:04:00	8:15 AM
	8:15 AM	8:43 AM	0:08:00	8:51 AM	9:12 AM	0:04:00	9:16 AM
	9:16 AM	9:44 AM					
	3:32 PM	4:00 PM	0:05:00	4:05 PM	4:26 PM	0:04:00	4:30 PM
	4:30 PM	4:58 PM	0:06:00	5:04 PM	5:25 PM	0:08:00	5:33 PM
	5:33 PM	6:01 PM	0:06:00	6:07 PM	6:28 PM	0:04:00	6:32 PM
	6:32 PM	7:00 PM					

Attachment D – Route 573 Option B Schedule

Pace Route 573 Option B		Weekday					
Total annual rev vehicle hrs	1959:15:00			Peak Buses =	1		
Total annual rev vehicle mi	39,711.15			20% Spares =	1		
				Fleet Size =	2		
Schedule Inputs							
Headway 1	1:00:00					wkday rev hrs	7:41:00
Headway 2	1:01:00	Running Time	0:27:00			wkday rev mi	155.73
Headway 3	1:02:00	Running Time	0:28:00				
Headway 4	1:03:00					annual rev hrs	1959:15:00
Headway 5	1:04:00					annual rev mi	39711.15
Headway 6							
Headway 7							
Weekday Pace Route 573 Option B							
	Lv Fountain	Ar		Lv	Ar Fountain		
	Square	Ford/Sheridan	Rec time	Ford/Sheridan	Square	Rec time	Lv next trip
	5:25 AM	5:52 AM	0:03:00	5:55 AM	6:22 AM	0:05:00	6:27 AM
	6:27 AM	6:54 AM	0:02:00	6:56 AM	7:23 AM	0:04:00	7:27 AM
	7:27 AM	7:54 AM	0:05:00	7:59 AM	8:26 AM	0:04:00	8:30 AM
	8:30 AM	8:57 AM	0:05:00	9:02 AM	9:29 AM	0:04:00	9:33 AM
	9:33 AM	10:00 AM					
	3:30 PM	3:57 PM	0:05:00	4:02 PM	4:30 PM	0:04:00	4:34 PM
	4:34 PM	5:01 PM	0:04:00	5:05 PM	5:33 PM	0:04:00	5:37 PM
	5:37 PM	6:04 PM	0:05:00	6:09 PM	6:37 PM	0:04:00	6:41 PM
	6:41 PM	7:08 PM					

Attachment E – Routes 573 and 566 Option C Schedules

Pace Route 573 Option C		Weekday					
Total annual rev vehicle hrs	1759:30:00	Peak Buses =	1				
Total annual rev vehicle mi	34,570.35	20% Spares =	1				
		Fleet Size =	2				
Schedule Inputs							
Headway 1	0:55:00			wkday rev hrs	6:54:00		
Headway 2	0:57:00	Running Time	0:25:30	wkday rev mi	135.57		
Headway 3		Running Time	0:26:00				
Headway 4		Running Time	0:20:00	annual rev hrs	1759:30:00		
Headway 5		Running Time	0:21:00	annual rev mi	34570.35		
Headway 6							
Headway 7							
Weekday Pace Route 573 Option C							
	Lv Fountain Square	Ar Wakefield/Green Bay	Rec time	Lv Wakefield/Green Bay	Ar Fountain Square	Rec time	Lv next trip
	5:25 AM	5:50 AM	0:05:00	5:55 AM	6:15 AM	0:05:00	6:20 AM
	6:20 AM	6:45 AM	0:05:00	6:50 AM	7:10 AM	0:05:00	7:15 AM
	7:15 AM	7:40 AM	0:05:00	7:45 AM	8:05 AM	0:05:00	8:10 AM
	8:10 AM	8:35 AM	0:05:00	8:40 AM	9:00 AM	0:05:00	9:05 AM
	9:05 AM	9:30 AM					
	3:30 PM	3:56 PM	0:05:00	4:01 PM	4:22 PM	0:05:00	4:27 PM
	4:27 PM	4:53 PM	0:05:00	4:58 PM	5:19 PM	0:05:00	5:24 PM
	5:24 PM	5:50 PM	0:05:00	5:55 PM	6:16 PM	0:05:00	6:21 PM
	6:21 PM	6:47 PM					

Pace Route 566 Option C		Weekday							
Total annual rev vehicle hrs	2567:00:00	Peak Buses	2						
Total annual rev vehicle mi	46,088.70	20% Spares	1						
		Fleet Size =	3						
Schedule Inputs									
Headway 1	1:00:00	Running Time	0:18:00	0:24:00	wkday rev hrs	10:04:00			
Headway 2	0:54:00	Running Time	0:19:00	0:25:00	wkday rev mi	180.74			
Headway 3	0:53:00	Running Time	0:20:00	0:26:00					
Headway 4	0:48:00	Running Time	0:21:00	0:27:00	annual rev hrs	2567:00:00			
Headway 5	0:46:00	Running Time	0:22:00	0:28:00	annual rev mi	46088.7			
Headway 6	0:44:00	Running Time	0:23:00						
Headway 7	0:40:00								
Weekday Pace Route 566 Option C									
	Lv Wash/Jackson	Lv Woodland Village	Ar Ford/Sheridan	Rec time	Lv Ford/Sheridan	Ar Woodland Village	Ar Wash/Jackson	Rec time	Lv next trip
					6:09 AM	6:33 AM		0:03:00	6:36 AM
					6:48 AM		7:06 AM		
	6:36 AM	6:58 AM	0:03:00		7:01 AM	7:28 AM			
					7:22 AM		7:43 AM		
					7:39 AM		8:00 AM		
	7:18 AM	7:39 AM							
	7:23 AM	7:48 AM	0:03:00		7:51 AM	8:19 AM		0:04:00	8:23 AM
	7:27 AM	7:48 AM							
	8:23 AM	8:47 AM	0:06:00		8:53 AM	9:19 AM			
					3:09 PM	3:35 PM		0:02:00	3:37 PM
				HS	3:15 PM	3:25 PM			
	HS	3:20 PM						0:07:00	3:37 PM
	3:20 PM	3:43 PM							
	3:37 PM	4:01 PM							
					3:35 PM	4:02 PM			
					3:48 PM	4:15 PM		0:04:00	4:19 PM
	4:19 PM	4:43 PM	0:05:00		4:48 PM	5:15 PM		0:05:00	5:20 PM
	5:20 PM	5:44 PM	0:07:00		5:51 PM	6:18 PM		0:05:00	6:23 PM
	6:23 PM	6:46 PM							
Bold indicates school trip									
HS trip leaves from Waukegan HS Brookside									

Attachment F – Option D Route 562 Schedule

Pace Route 562 Option D		Weekday							
Total annual rev vehicle hrs	3689:00:00			Peak Buses =	1				
Total annual rev vehicle mi	56,569.20			20% Spares =	1				
				Fleet Size =	2				
Schedule Inputs									
Headway 1	0:56:00					wkday rev hrs	14:28:00		
Headway 2	1:00:00		Running Time	0:17:00		wkday rev mi	221.84		
Headway 3	1:01:00		Running Time	0:22:00					
Headway 4	1:02:00		Running Time	0:23:00		annual rev hrs	3689:00:00		
Headway 5	1:03:00		Running Time	0:24:00		annual rev mi	56569.2		
Headway 6	1:04:00								
Headway 7	1:06:00								
Headway 8	1:09:00								
Weekday Pace Route 562 Option D									
Lv Wash/ Jackson	Lv Wash/ Sheridan	Ar Waukegn HS Brkside	Ar Ford/ Sheridan	Rec time	Lv Waukegn HS Brkside	Lv Ford/ Sheridan	Ar Wash/ Sheridan	Rec time	Lv next trip
	6:02 AM		6:26 AM	05:00		6:31 AM	6:55 AM	07:00	7:02 AM
	6:39 AM	7:02 AM							
					S	7:23 AM	7:46 AM		
	7:02 AM		7:26 AM	05:00		7:31 AM	7:55 AM	07:00	8:02 AM
B	7:18 AM	7:46 AM							
B	7:28 AM	7:56 AM							
	8:02 AM		8:26 AM	05:00		8:31 AM	8:55 AM	07:00	9:02 AM
	9:02 AM		9:24 AM	08:00		9:32 AM	9:54 AM	11:00	10:05 AM
	10:05 AM		10:27 AM	05:00		10:32 AM	10:54 AM	11:00	11:05 AM
	11:05 AM		11:27 AM	05:00		11:32 AM	11:54 AM	11:00	12:05 PM
	12:05 PM		12:27 PM	05:00		12:32 PM	12:54 PM	11:00	1:05 PM
	1:05 PM		1:27 PM	05:00		1:32 PM	1:54 PM	11:00	2:05 PM
	2:05 PM		2:27 PM	05:00		2:32 PM	2:54 PM	11:00	3:05 PM
B					3:20 PM		3:44 PM		
	3:05 PM		3:29 PM	05:00		3:34 PM	3:58 PM	07:00	4:05 PM
3:20 PM B		S	3:37 PM						
	4:05 PM		4:29 PM	05:00		4:34 PM	4:58 PM	07:00	5:05 PM
	5:05 PM		5:29 PM	05:00		5:34 PM	5:58 PM	07:00	6:05 PM
	6:05 PM		6:29 PM						
Bold indicates school trip									
S indicates trip leaves from or arrives at Sunset/Green Bay									
B indicates trip operates on McAree between Waukegan HS-Brkside and Sunset									