



Blue Line Forest Park Branch Feasibility/Vision Study

Conceptual Service Patterns

Final Report

March 9, 2015



- Clinton
- UIC-Halsted
- Racine
- Illinois Medical District
- Western
- Kedzie-Homan
- Pulaski
- Cicero
- Austin
- Oak Park
- Harlem
- Forest Park

Table of Contents

1.0 INTRODUCTION..... 4

1.1 Organization of this Report 4

1.2 Study Area..... 4

2.0 EXISTING CONDITIONS 5

2.1 CTA Rail Forest Park Branch..... 5

3.0 SERVICE PATTERNS 6

3.1 Car Requirements 6

3.2 Train Requirements..... 6

3.3 Train Schedules..... 6

4.0 POTENTIAL FUTURE SERVICE SCHEDULE 8

4.1 Average Daily Boarding Analysis 8

4.2 Future Service Plan Options 9

5.0 PRELIMINARY EVALUATION 13

5.1 Methodology..... 13

5.2 Runtime Analysis 13

5.3 Evaluation Matrix 14

5.4 Extension Options Evaluation..... 14

6.0 RECOMMENDATIONS..... 19

6.1 Forest Park Blue Line Branch 19

6.2 Extension Options..... 19

APPENDIX A: FOREST PARK BRANCH SCHEDULES 21

List of Tables

Table 2.1. Blue Line Existing Headway by Time and Direction..... 5
Table 3.1. Blue Line Train Count 6
Table 3.2. Blue Line Weekly Station Arrivals and Departures 7
Table 4.1. Percent Change in Average Daily Boarding, 2003 - 2012 8
Table 4.2. Average Daily Boarding, 2012..... 9
Table 5.1. Blue Line Alternatives Travel Time 13
Table 5.2. Blue Line Alternatives Evaluation Matrix 14
Table 5.3. Blue Line Extension Travel Times..... 18
Table 6.1. Blue Line Extension Estimated Boardings 20

List of Figures

Figure 4.1. Average Station Total Weekday Ridership, October 2012..... 11
Figure 5.1. Conceptual Extension Alignment and Station Options 17
Figure A.1. Clinton..... 21
Figure A.2. UIC Halsted..... 22
Figure A.3. Racine Station..... 23
Figure A.4. Illinois Medical District 24
Figure A.5. Western Station..... 25
Figure A.7. Kedzie-Homan Station..... 26
Figure A.8. Pulaski..... 27
Figure A.9. Cicero Station 28
Figure A.10. Austin Station..... 29
Figure A.11. Oak Park 30
Figure A.12. Harlem 31
Figure A.13. Forest Park..... 32

1.0 Introduction

This document is an analysis of the existing service patterns for the Forest Park branch of the CTA Blue Line and will be utilized to develop the conceptual long term service patterns. Service on the Forest Park Branch of the Blue Line began operations as the Congress Branch of CTA's West-Northwest Route in late June 1958. This line, located in the median of the Congress Expressway, replaced an older rapid transit service, the Garfield Park Branch of the CTA, which had its beginnings in 1895.

1.1 Organization of this Report

The structure of this document includes four main sections:

1. Service Patterns
2. Existing Conditions
3. Train Schedules
4. Potential Future Service Schedule

1.2 Study Area

The study area for the Forest Park Blue Line Branch Existing Service Pattern Analysis consists of the twelve active CTA stations between Clinton, in the Chicago Loop, and the Forest Park terminal station, as well as three abandoned stations at California, Kostner and Central. These stations were closed on September 2, 1973 due to service changes. The study area includes the 9.5 mile Forest Park Blue Line route.

These study and station area boundaries were set to encompass the areas of service along the Forest Park Blue Line branch for CTA riders.

2.0 Existing Conditions

This section includes a summary of the CTA transit services that serve the Forest Park branch of the Blue Line. A short summary of the Forest Park branch itself is given. For more information on existing transit conditions see the Draft Travel Market Analysis Technical Memorandum, July 2013.

2.1 CTA Rail Forest Park Branch

The Forest Park Branch is the name of the rail line that operates between the Forest Park terminal in Forest Park, Illinois and the Clinton station just west of the Loop in Chicago, IL. The Branch is part of the much longer Blue Line service that operates between the Forest Park terminal and O'Hare International Airport. At 9.5 miles, the Forest Park Branch comprises approximately one third of the total length of the 27.7 mile rail line between Forest Park and O'Hare.

The Blue Line operates 24-hours a day, seven days a week. Frequencies by time period and direction are shown in Table 2.1. Due to the fact that demand is high to and from both terminals (Forest Park and O'Hare), headways remain high throughout the day, regardless of direction or time period.

Table 2.1. Blue Line Existing Headway by Time and Direction¹

CTA Blue Line Route	Weekday				
	AM PEAK	Midday	PM PEAK	Evening	Night
Blue Line to Forest Park	4-8 min	6-10 min	6-10 min	6-10 min	10-15 min
Blue Line to O'Hare	4-8 min	3-8 min	3-8 min	10 min	15 min
	Saturday				
	AM PEAK	Midday	PM PEAK	Evening	Night
Blue Line to Forest Park	6 min	5-10 min	5-10 min	6-12 min	12 min
Blue Line to O'Hare	9-10 min	5-10 min	5-10 min	6-12 min	12 min
	Sunday				
	AM PEAK	Midday	PM PEAK	Evening	Night
Blue Line to Forest Park	12 min	6-12 min	6-12 min	10 min	12 min
Blue Line to O'Hare	12 min	6-12 min	6-12 min	10 min	12 min

Source: CTA Bus and Train Route Timetables, Effective May 19, 2013.

¹ Time periods defined: Early AM=4-6a, AM Peak=6-9a, Midday=9a-4p, PM Peak=4-7p, Evening=7-10p, Night=10p-4a

3.0 Service Patterns

This section addresses rolling stock in use for the Forest Park Blue Line Branch. The assigned CTA car types for the entire branch are the 2600-series. The cars are in operation at all times of the day, every day of the week, with handicap accessibility at the UIC-Halsted, Illinois Medical District, Kedzie-Homan, and Forest Park station locations.

3.1 Car Requirements

During Weekdays, the number of cars in operation varies depending on the demand for service along the branch. During AM Rush, Midday, PM Rush, and Owl, 288, 136, 272, and 24 cars are required, respectively. For the weekday, 8 cars per train are required for AM Rush, Midday, and PM Rush while 4 cars per train are required for Owl. On Saturday and Sunday/Holiday, the maximum requirements for number of cars are 112 and 96 respectively and 4 cars per train. Table 3.1 shows the allocation of 4 car and 8 car formations for the trains during the course of a week.

Table 3.1. Blue Line Train Count

Cars per Train	Weekday		Saturday		Sunday/Holiday	
	North bound	South bound	North bound	South bound	North bound	South bound
4	27	31	209	209	154	156
8	146	146	0	0	0	0

Source: CTA Bus and Train Route Timetables, Effective May 19, 2013.

3.2 Train Requirements

During Weekdays, the number of trains in operation varies depending on the demand for service along the Forest Park branch. During AM Rush, Midday, PM Rush, and Owl, 36, 17, 34, and 6 trains are required, respectively. On Saturday and Sunday/Holiday, the maximum requirements for number of trains are 28 and 24 respectively.

3.3 Train Schedules

In Table 3.2 provided below, schedule frequency is shown for CTA trains along the Forest Park branch for regular operation. Information is provided for the north and southbound directions for Weekdays, Saturdays and Sundays/Holidays and takes into account the trains that begin and terminate at Morgan and affect the quantities for the Clinton and UIC-Halsted station locations.

Table 3.2. Blue Line Weekly Station Arrivals and Departures

Blue Line Station	Weekday		Saturday		Sunday/ Holiday	
	North	South	North	South	North	South
Clinton	173	177	209	209	154	156
UIC-Halsted	173	177	209	209	154	156
Racine	163	167	124	124	112	114
Illinois Medical District	163	167	124	124	112	114
Western	163	167	124	124	112	114
Kedzie-Homan	163	167	124	124	112	114
Pulaski	163	167	124	124	112	114
Cicero	163	167	124	124	112	114
Austin	163	167	124	124	112	114
Oak Park	163	167	124	124	112	114
Harlem	163	167	124	124	112	114
Forest Park	163	167	124	124	112	114

Source: CTA Bus and Train Route Timetables, Effective May 19, 2013.

4.0 Potential Future Service Schedule

This section provides solutions for prospective operations schedules for the CTA Blue Line Forest Park branch. An average daily boarding trend analysis is included in order to determine the stations in need of additional service. In response to stations with excess demand, several future service plan options are investigated

4.1 Average Daily Boarding Analysis

The trend in daily boarding on the Forest Park branch has demonstrated increased demand over the past decade, as shown in Table 4.1. For the 12 stations in the study area (Clinton to Forest Park), the daily boarding have increased 46 percent on average in the period 2003 to 2012. Seven of the stations on the branch exceeded the overall branch average growth rate. As a note, the average daily boarding values are cumulative for those stations with multiple entranceways.

Table 4.1. Percent Change in Average Daily Boarding, 2003 - 2012

Station	2003 Average Daily Boarding	2012 Average Daily Boarding	Percent Change 2003 - 2012
Clinton	2,462	3,462	+34%
UIC-Halsted	3,612	5,892	+63%
Racine	1,942	2,369	+22%
Illinois Medical District	2,121	3,728	+76%
Western	952	1,783	+87%
Kedzie-Homan	1,558	2,120	+36%
Pulaski	1,260	1,929	+53%
Cicero	968	1,417	+46%
Austin	1,506	2,120	+41%
Oak Park	1,319	1,818	+38%
Harlem	792	1,114	+41%
Forest Park	3,455	3,969	+15%

Source: CTA Ridership Reports: 2003 and 2012 Annual, Prepared by CTA January 26, 2004 and April 12, 2013

It is important to note that individual station increases in daily boarding are relative to what the station saw in daily traffic at the start of the sample period, in this case, the 2003 average daily boarding. So, even stations which posted a lower than 46 percent increase from the 2003 ridership may be showing a recent trend of increased boarding that exceeds the nine year average. The stations may also be well above the levels of daily boarding of some of the stations listed above, despite average daily boarding growth of less than the 46 percent. Indeed, this is the case for UIC-Halsted, Western and Illinois Medical District stations, and it becomes clear that average daily boarding at stations east of Western Avenue appear to warrant additional

service compared to those to the west on the branch. Table 4.2 below shows the daily boarding for the stations from Clinton to Illinois Medical District.

Table 4.2. Average Daily Boarding, 2012

Station	Average Weekday Boarding	Average Saturday Boarding	Average Sunday Boarding
Clinton	3,462	1,512	1,339
UIC/Halsted	5,892	2,413	1,670
Racine	2,369	1,344	902
Illinois Medical District	3,728	1,258	824

Source: CTA Ridership Reports: 2012 Annual, Prepared by CTA on April 12, 2013

4.2 Future Service Plan Options

From the results in Section 4.1, it is clear that supplemental service is needed for both the UIC/Halsted and Illinois Medical District areas, where the traffic flows appear to warrant the supplemental service. When considering the origin and destination of riders, most are travelling to and from the eastern portion of the branch to the location of the central hub in The Loop. As with the current Morgan Middle Track turnback trains, serving these close-in stations also has the advantage of providing additional service on the heavier-trafficked O'Hare branch. Year 2012 data for the O'Hare and Dearborn Subway stations shows that 80% of the 20 stations from LaSalle to the O'Hare terminal station each have average daily boardings well in excess of those found at most stations on the Forest Park branch, with the exception of the UIC/Halsted station traffic, which at 5,892 average daily boardings is comparable to the levels found at the Division or Rosemont stations.

There are other options for enhancing service on the Forest Park branch. These would include:

4.2.1 State of Good Repair

The Forest Park Branch currently has many sections of track under speed restriction for a variety of reasons. As of July 15, 2013, 11,170 feet of Eastbound and 14,512 feet of Westbound track are currently classified as a "slow zone" on the branch. By bringing this track to a state of good repair, travel time along would be reduced, resulting in a more attractive transit option while maintaining service to all existing stations. For purposes of preliminary evaluation, this plan is assumed to include all existing stops and a 55 mph maximum running speed between stations.

4.2.2 Skip-Stop Service

A pattern of A/B service could be instituted on the branch to have the lower-trafficked stations served only by one class of train (for example, B train), while the higher-ridership stations on the branch would be served by both A and B trains.

The A/B service operation is an express option typically used when no passing tracks are available. This system of operation would allow for increased train speeds, service frequency proportional to riding demand, fine adjustment of headways between trains, and reduced number of cars and manpower. However, it's important to note that even when A/B train operation was a system wide practice when the CTA took over the "L" service on October 1, 1947, this operating approach was never used as the operational service plan for the Forest Park branch, which makes it more of a cost to implement station signage to mark the stations each a letter. Furthermore, adopting this operating plan on the branch would not reduce operating expenses or equipment requirements to any extent. The A/B service pattern may cause confusion for newer riders because of the varying train schedules. If executed without adding any trains to the daily schedule, this would result in a 24-minute headway between trains at the lower-trafficked stations, which is a distinct deterrent to transit usage (based on the northbound AM peak headway in effect for the Spring 2013 rail schedules).

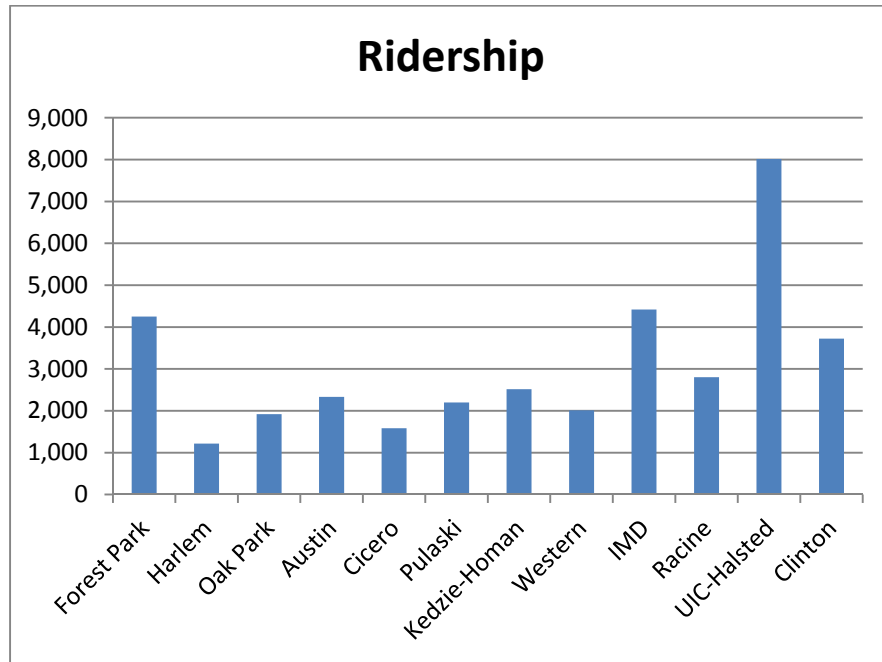
For purposes of preliminary evaluation, this plan is assumed to provide existing service frequencies at Forest Park, Oak Park, Cicero, Kedzie-Homan, Illinois Medical District, UIC-Halsted, and Clinton, with state of good repair running times between stations.

4.2.3 Express Service

When considering the average daily boarding by station on the branch, it is apparent that the Forest Park terminal has average daily boarding (3,969 in 2012) in the range similar to the four stations on the east end of the branch, primarily because it acts as a significant bus transfer and park and ride station. No other stations between Illinois Medical District and Forest Park have average daily boarding at this level. Figure 4.1 is a visual representation of the average weekday ridership.

Due to the lack of service demand for the seven intermediate stations on the branch, a peak-hour express service could be instituted to serve only Forest Park and the east end of the branch. However, this service approach would only save about 3.5 minutes over the all-stop trains by passing up the seven intermediate stations since the average combination of dwell time and acceleration time at each station is about 75 seconds. This approach would also require the addition of new revenue trackage within the right-of-way for passing all stop trains.

Figure 4.1. Average Station Total Weekday Ridership, October 2012



Source: CTA October 2012 Ridership Report.

As with the A/B service plan, this option would not reduce operating expenses or car requirements significantly and would result in reduced service at the intermediate, bypassed stations, resulting in these stations having a 24-minute interval between stopping trains, which would be objectionable. This operating configuration would also result in reduced service to a number of stops, such as Cicero and Kedzie-Homan, which have significant ridership based on bus transfers, resulting in a less effective transit network overall. Additionally, Metra's UP West and BNSF lines immediately north and south of the study area currently provide similar express service from Oak Park or Austin Avenues with faster travel times than could be achieved along the Blue Line alignment as an express track.

For purposes of preliminary evaluation, this plan is assumed to provide stops only at Forest Park, Illinois Medical District, Racine, UIC-Halsted, and Clinton, with state of good repair running times between stations.

4.2.4 Semi-Express

In an effort to serve some of the intermediate stations bypassed in the previous full express service configuration, another option would be to provide service to some stations with relatively high ridership levels. As with other options that include the bypassing of stations by some trains, this option would result in significantly reduced service at stations not served by the new service option, including up to 24 minute headways. However, as fewer stations are bypassed in this alternative, more opportunities exist to maintain an effective overall network when bus transfers are considered.

This option would likely require the construction of additional revenue trackage to allow the limited stop trains to pass the slower local stop service.

For the purposes of preliminary evaluation, this plan is assumed to provide stops at Forest Park, Oak Park, Austin, Kedzie-Homan, Illinois Medical District, UIC-Halsted, and Clinton, with state of good repair running times between stations.

4.2.5 IMD Turnback and Other Connections

Current service plans have as many as every other train from O'Hare turnback after UIC-Halsted using the Morgan Middle Track. This existing service, however, falls just short of providing service to stations with high ridership and employment figures, including Racine and Illinois Medical District. To address this situation, the addition of a new turnback track between Illinois Medical District and Western is proposed.

This solution is common in urban systems when one section requires a higher frequency of service than the other and trains would be turning at a location mid route. A limited service train would be implemented from O'Hare to Illinois Medical District to serve only these stations. The new turnback track would be used to reverse the direction of limited service trains after serving the stations east of Western to Clinton. This track installment would supersede the use of the Morgan Middle track for turnback trains, though the Morgan Middle Track, located between Racine and Morgan, could be left in place to facilitate staging of trains coming to/from the Pink Line, etc. As noted above, the turnback would allow for increased service of those stations from Illinois Medical District to Clinton with increased average daily boarding.

As part of this reconstruction work, it is possible that a transfer station could be built between the Pink Line and the Forest Park Blue Line branch Illinois Medical District station at Paulina Street. Conceptual plans for such a facility were developed by CTA in 2011. However, the location on the Pink Line, in order to be clear of Harrison Junction, will have several access challenges to address (particularly providing for ADA-compliant access and access paths). This station would also be too close to the Pink Line's Polk Street station, which might compromise the utility of the new station, or adversely impact the existing station.

This plan was not evaluated in the runtime spreadsheet model, as this service plan would ultimately result in few runtime impacts to the line between Forest Park and Clinton. As such, it is recommended that the addition of the new turnback track be moved forward for evaluation in the full model. This plan was not evaluated between Forest Park and Clinton. Limiting service to the western section of the branch limits system connections and total stations served; however, the new IMD Turnback would have operational benefits during the construction phase of a proposed complete renovation of the Forest Park Branch. As such, this option is recommended for further evaluation.

5.0 Preliminary Evaluation

The following sections explain methods used to evaluate the Forest Park Branch service options.

5.1 Methodology

For the purposes of completing an initial feasibility screening on a variety of service alternatives, a spreadsheet based travel-time model of the study area corridor was developed. This model incorporates train speed, travel distance, stopping time (slow, dwell, and accelerate), and stopping patterns to output an estimated schedule for travel through the corridor. Inputs to the model which may be varied include stopping patterns, train speed by segment, and station stop dwell time. Outputs, used later in this analysis, include the previously noted stopping schedule and travel time as well as population and employment served (within ½ mile of selected stations) and a summary of general operating characteristics, such as average speed and total travel time.

Each alternative described in Section 4.0 was analyzed using this model. The results are summarized below.

5.2 Runtime Analysis

Table 5.1 below summarizes the results of the travel-time model for each alternative evaluated.

Table 5.1. Blue Line Alternatives Travel Time

Alternative	Direction	Travel Time	Travel Time Change*	Rider-ship	Percent Change	Existing Bus Connections	Station Served
Existing	Inbound	26.5	0.0%	36,989	0.0%	22	12
	Outbound	28.6	0.0%				
Existing State of Good Repair	Inbound	23.0	13.2%	36,989	0.0%	22	12
	Outbound	23.8	16.8%				
Skip-Stop	Inbound	17.8	19.6%	26,427	0.0%	22	12
	Outbound	18.5	18.5%				
Semi-Express	Inbound	17.8	19.6%	27,176	-26.5%	17	7
	Outbound	18.5	18.5%				
Express	Inbound	15.3	29.1%	23,214	-37.2%	11	1
	Outbound	16.8	24.5%				
IMD Turnback	Inbound	NA**	NA**	NA**	NA**	6	8
	Outbound	NA**	NA**				

* % Change for all alts base is State of Good Repair, except State of Good Repair which is based on existing Blue Line travel time. ** NA=Not Applicable, IMD Turnback would facilitate construction staging of proposed renovations on the Forest Park Branch.

As is expected with the removal of stations, all alternatives reduce end to end travel time. However, as noted above, each alternative also comes with disadvantages. For example, skip-stop service, as noted previously, will halve the headways on the line, resulting in 24 minutes between each train, well below service standards. Other alternatives, which involve removing some stops, do so at the cost of reducing bus connections and the ability to serve other intermediate riders and destinations, which has serious implications on the effectiveness of the system as a whole while ultimately only duplicating service currently offered by Metra, which has a scheduled travel time of about 16 minutes from Oak Park Avenue to downtown during the peak period (e.g. inbound trains 30 and 34 and outbound trains 51 and 53). A preliminary evaluation matrix of all alternatives is provided in the following section.

5.3 Evaluation Matrix

Table 5.2 shows the evaluation matrix and recommendations for detailed analysis using the spreadsheet travel model. The State of Good Repair and IMD Turnback are recommended for more detailed evaluation using the I-290 travel model.

Table 5.2. Blue Line Alternatives Evaluation Matrix

Alternative	Travel Time	Connections	Pop/Emp	System Operation	Cost	Recommend for Detailed Evaluation
Existing	o	o	o	o	o	NA
State of Good Repair	+	+	+	o	+	Yes
Skip-Stop	+	+	+	-	-	No
Semi-Express	+	-	-	o	-	No
Express	+	-	-	-	-	No
IMD Turnback	o	o	+	+	+	Yes

'o' = same as other alternatives, '+' = better than other alternatives, '-' = worse than other alternatives

5.4 Extension Options Evaluation

In addition to the service modifications on the existing Forest Park Branch described in the preceding sections, strong ridership and bus transfer figures at the Forest Park station indicate potential demand for transit service beyond the current terminus. While this demand is currently generally well served by Pace bus service, a number of Blue Line extension scenarios were evaluated in an effort to ascertain preliminary run times and stopping patterns. These scenarios are described briefly below, and are a combination of stations illustrated in Figure 5.1 and summarized in Table 5.3. Potential Blue Line Extension station and yard and shop locations area shown on Figure 5.1 are preliminary and evaluated in the *Draft Transit Market Analysis Report, July 2014*.

Conceptual Extension Alignment and Station Options

1. Cook County Courthouse to Clinton

This option would include approximately 3,500 feet of new track to a new station near the Cook County Courthouse. This would be the only additional stop, and all current stops are assumed to have continued service. A potential yard and shop could potentially be located west of the courthouse on the existing Com-Ed property near the Cook County Courthouse.

Recommendation: Provides improved transit access to Cook County Court House. Consider station location for further evaluation.

2. 1st Avenue to Clinton

This option would include approximately 5,200 feet of new track to a new station at 1st Avenue at the I-290 (Eisenhower Expressway) overpass. This would be the only additional stop, and all current stops are assumed to have continued service. A potential yard and shop could be located west of the courthouse on the existing Com-Ed property.

Recommendation: Within 0.3 miles of Cook County Courthouse Station. Station location not recommended for further evaluation.

3. Westchester to Clinton

This option would include approximately 17,200 feet of new track to a new station at Westchester Avenue at the I-290 (Eisenhower Expressway) overpass. Intermediate stations would be included at 25th Avenue and I-290 and 5th Avenue and I-290. Station locations were selected based on a preliminary assessment including I-290 proposed intersection designs, demographic and employment data, and transfer potential to Pace Buses. A potential yard and shop could be located on the existing Com-Ed property, west, south or north of I-290 and west of 25th Avenue. However, these yard and shop locations would require turning trains back to enter the yard.

Recommendation: Within 0.3 miles of Cook County Courthouse Station and highest population within 0.5 miles. Station location recommended for further evaluation.

4. Mannheim North to Clinton

This option would include approximately 18,900 feet of new track to a new station at Mannheim north of I-290. Intermediate stations would be included at 25th Avenue and I-290 and 5th Avenue and I-290. A potential yard and shop could be located west of Mannheim on parcels north or south of I-290. The yard and shop could also be located further near Wolf Road or I-294.

Recommendation: Limited ROW for Blue Line Extension alignment north of I-290. Station location not recommended for further evaluation.

Mannheim South to Clinton

This option would include approximately 18,900 feet of new track to a new station at Mannheim south of I-290. Intermediate stations would be included at 25th Avenue and I-290 and 5th Avenue and I-290. The proposed Blue Line Extension would exit the I-290 median near Westchester Boulevard due the lack of available right-of-way in within the I-290 median, as shown in Figure B.15. A potential yard and shop could be located west of Mannheim on parcels north or south of I-290. The yard and shop could also be located further near Wolf Road or I-294.

Recommendation: Consider for further evaluation as the Blue Line Extension terminal station.

The results of the preliminary evaluation of the extension alternatives described above are summarized in Table 5.3.

Figure 5.1. Conceptual Extension Alignment and Station Options

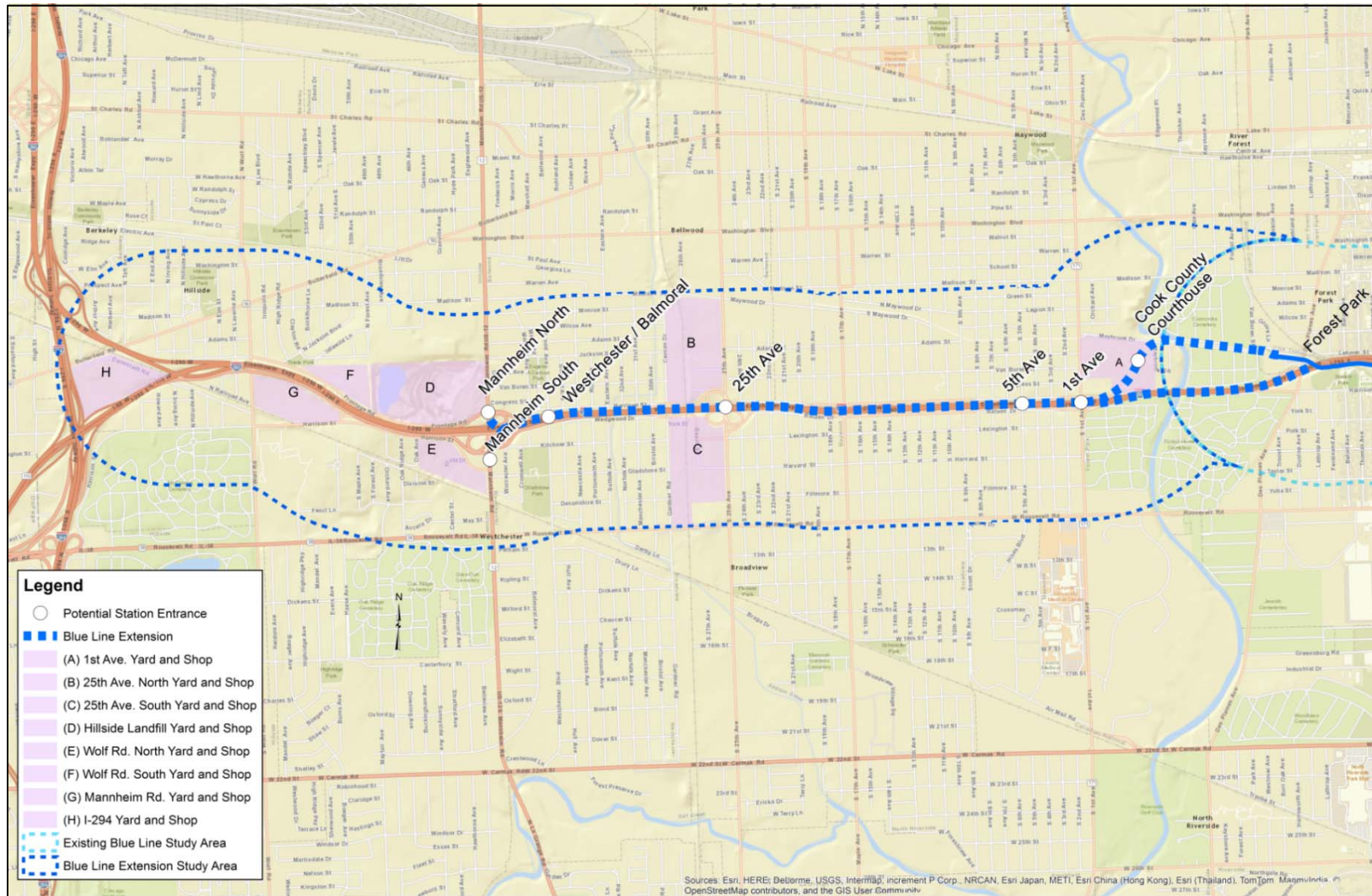


Table 5.3. Blue Line Extension Travel Times

Alternative	Direction	Travel Time to and from Clinton	Estimated Ridership	Percent Change	Connections	Station Served Change	Recommendation
Cook County Court House	Inbound	26.6	37,187	0.5%	23	1	Provides improved transit access to Cook County Court House. Consider for further evaluation.
	Outbound	26.4					
1 st Avenue	Inbound	26.6	37,563	1.6%	23	1	Within 0.3 miles of Cook County Courthouse Station. Not recommended for further evaluation.
	Outbound	28.2					
5 th Avenue	Inbound	28.6	37,989	2.7%	24	2	Highest population within .50 miles of the station. Consider for further evaluation.
	Outbound	28.2					
25 th Avenue	Inbound	31.2	37,791	2.2%	25	3	Second highest population within .50 miles of the station. Consider for further evaluation. Potential location at 7 th Avenue should also be investigated.
	Outbound	30.5					
Westchester	Inbound	33.3	37,916	2.5%	26	4	Consider for further evaluation.
	Outbound	32.4					
Mannheim North	Inbound	33.3	37,574	1.6%	27	5	Limited ROW for Blue Line Extension alignment north of I-290. Not recommended for further evaluation.
	Outbound	33.7					
Mannheim South	Inbound	34.2	37,629	1.7%	27	5	Consider for further evaluation.
	Outbound	33.7					

* % Change in travel time based on state of good repair of Forest Park to Clinton.

* % Change for all alts base is State of Good Repair, which is based on existing Blue Line travel time.

6.0 Recommendations

6.1 Forest Park Blue Line Branch

The Forest Park Branch study area consists of a robust network of transit service providing access and connectivity in to and out of the study area in all directions. Based on the spreadsheet runtime analysis of the six services alternatives, two are recommended for detailed study. The recommended service alternatives include State of Good Repair and the IMD Turnback. Overall, the recommended alternatives would not impact existing and future ridership potential and boarding's at Forest Park Branch Stations, nor would it interrupt the overall network provided by existing bus and rail connections. However, it should also be noted that the travel market in the Blue Line Study Area is also served by METRA Union Pacific West Line, CTA Green Line and CTA Pink Line. The CTA Blue Line is an express service compared to the CTA Green and Pink Lines. Compared to UP West Line, the Blue Line provides local station stops between Forest Park and Downtown. As result, the recommended alternatives are not expected to impact existing and future ridership on nearby CTA and Metra rail lines.

6.2 Extension Options

At time of this study, the IDOT I-290 Eisenhower Expressway project has identified I-290 improvements and reserved the right-of-way within the median of I-290 from Forest Park to Mannheim Road for a potential future transit corridor in the form of a Blue Line Extension. The I-290 project is studying rail and express bus transit modes from Mannheim Road to the CTA Forest Park station as possible transit alternatives. Potential recommended stations include Cook County Courthouse, 5th Avenue, 25th Avenue, Westchester/Balmoral and south of the I-290/Mannheim Road intersection. The transit alternatives and station locations will be studied in more detail as part of the I-290 Environmental Impact Study which is expected to begin in spring 2015.

Possible station locations between Forest Park and Mannheim include, in the vicinity of 1st Avenue: Cook County Courthouse, 1st Avenue, 5th Avenue, 25th Avenue; and in the vicinity of Mannheim Road: Westchester / Bellwood Avenue and locations north and south of Mannheim Road, as shown in Figure 6.1. This identification of potential stations is performed out of due diligence on behalf of CTA to determine which proposed station locations have the most merit and to inform the existing IDOT study. This station assessment is preliminary and does not reflect a recommendation that extension of the Blue Line Forest Park Branch or proposed stations are feasible.

Travel times were developed based on the Blue Line Extension to potential stations at Cook County Court House, 1st Avenue, 5th Avenue, 25th Avenue, Westchester, Mannheim North, Mannheim South. Station boarding's were estimated based on the estimated population and employment within .25 miles of the station locations. Table 6.1 shows the estimated station

boardings and recommendation for each station location. The recommended station locations include Cook County Courthouse, 5th Avenue, 25th Avenue, Westchester and Mannheim South.

Table 6.1. Blue Line Extension Estimated Boardings

Alternative	Estimated Station Boardings	Recommendation
Cook County Court House	198	Provides improved transit access to Cook County Court House Consider for further evaluation.
1 st Avenue	574	Within 0.3 miles of Cook County Courthouse Station. Not recommended for further evaluation.
5 th Avenue	1,009	Highest population within .50 miles of the station. Consider for further evaluation.
25 th Avenue	802	Second highest population within .50 miles of the station. Consider for further evaluation. Potential location at 7 th Avenue should also be investigated.
Westchester	927	Consider for further evaluation.
Mannheim North	585	Limited ROW for Blue Line Extension alignment north of I-290. Not recommended for further evaluation.
Mannheim South	640	Consider for further evaluation.

Appendix A: Forest Park Branch Schedules

Figure A.1. Clinton

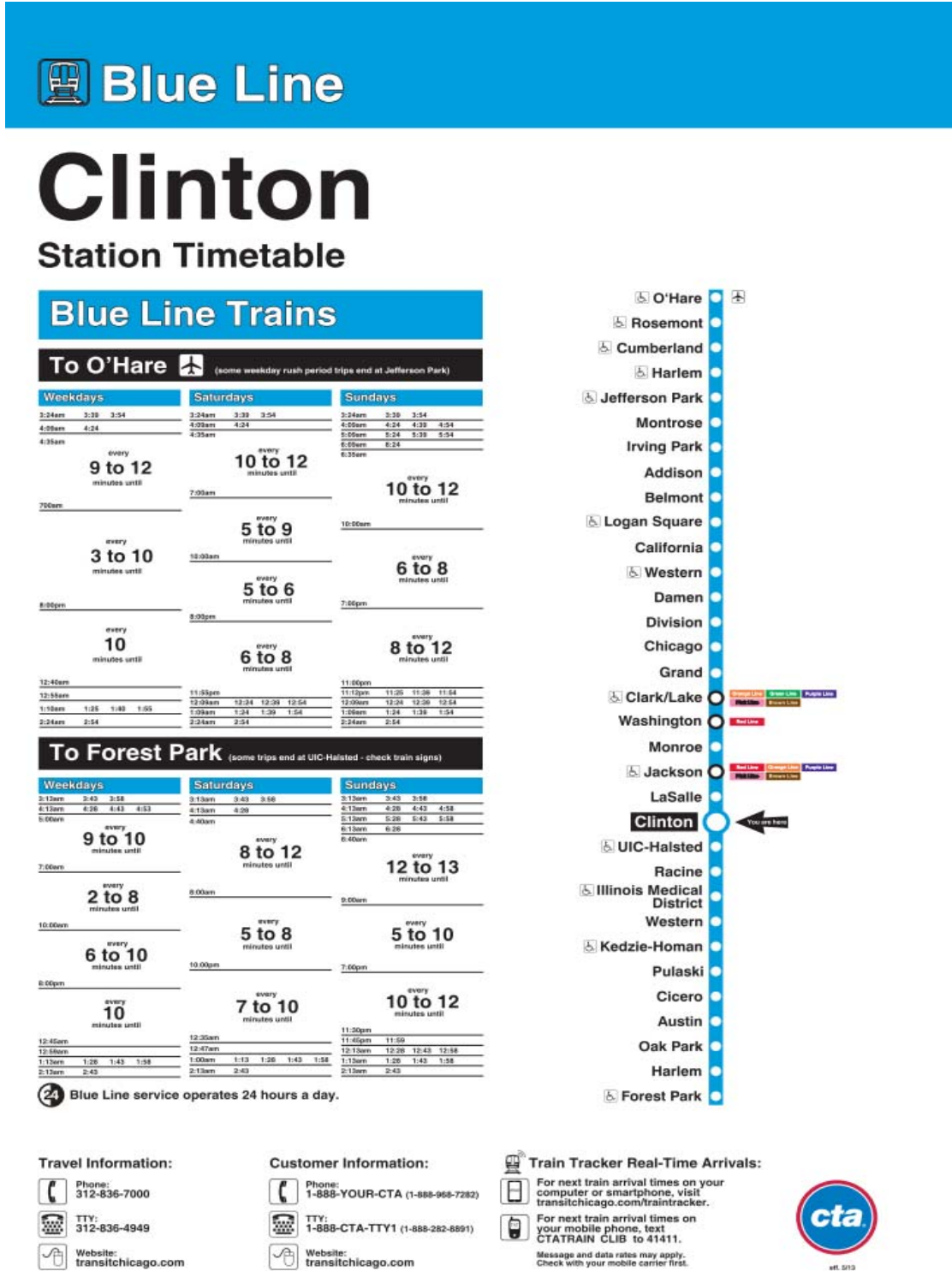


Figure A.2. UIC Halsted

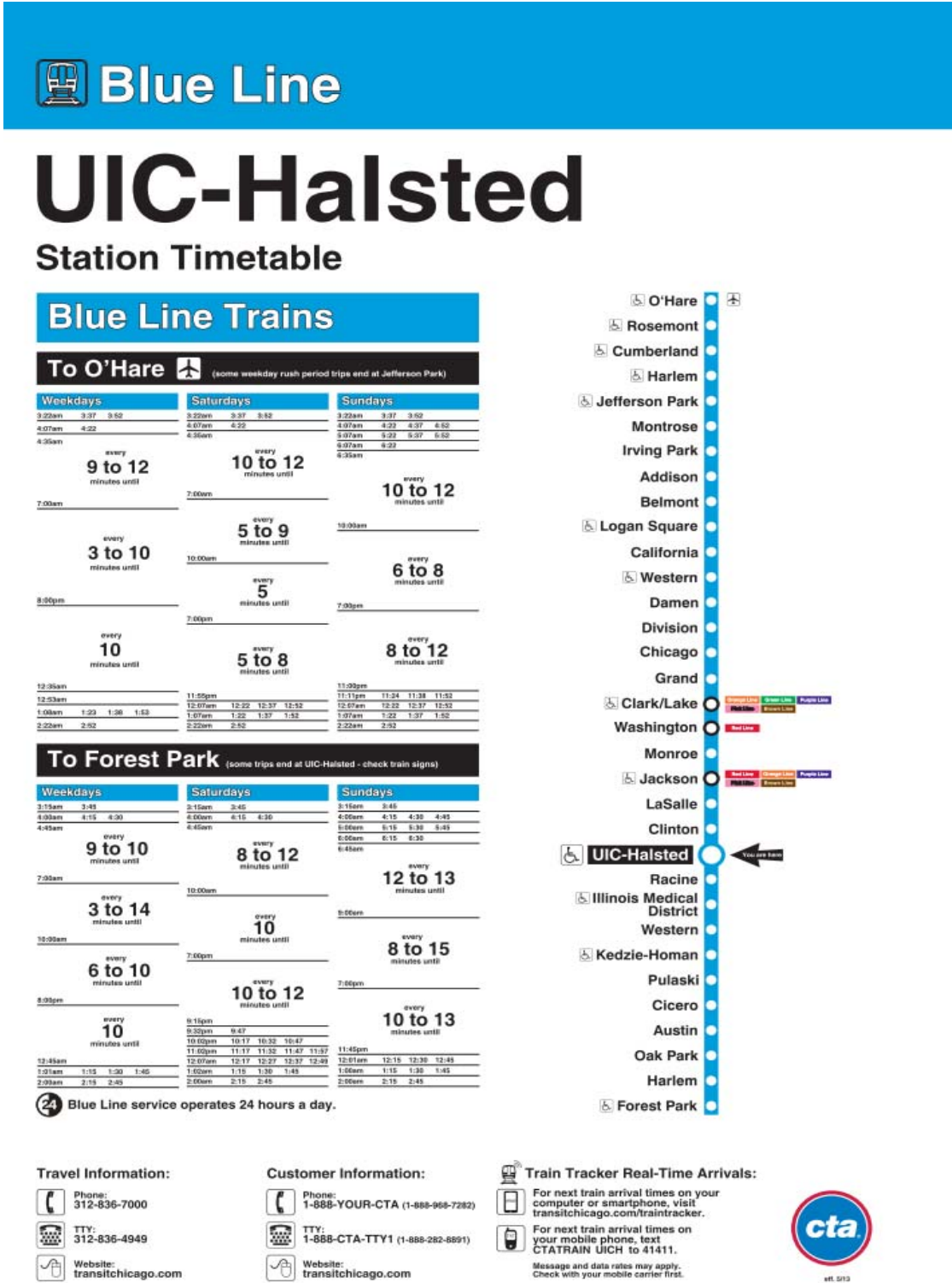


Figure A.3. Racine Station



Racine

Station Timetable

Blue Line Trains

To O'Hare

Weekdays	Saturdays	Sundays
3:21am 3:39 3:51	3:21am 3:39 3:51	3:21am 3:39 3:51
4:05am	4:05am 4:21	4:05am 4:21 4:36 4:51
4:25am	4:35am	5:05am 5:21 5:36 5:51
		6:05am 6:21
		6:35am
every 8 to 12 minutes until	every 10 to 12 minutes until	every 8 to 15 minutes until
8:05am	7:05am	12:00pm
every 7 to 10 minutes until	every 7 to 12 minutes until	
3:05pm	10:05am	every 12 minutes until
every 3 to 8 minutes until	every 10 minutes until	
7:05pm	7:05pm	6:00pm
every 7 to 10 minutes until	every 10 to 12 minutes until	every 8 to 15 minutes until
12:15am	9:15pm 9:35pm 9:48	11:10pm
12:27am 12:37 12:52	10:31pm 10:18 10:33 10:49	11:22pm 11:39 11:51
1:07am 1:23 1:37 1:52	11:03pm 11:18 11:33 11:49	12:02am 12:17 12:30 12:51
2:21am 2:31	12:05am 12:11 12:39 12:51	1:05am 1:21 1:36 1:51
	1:06am 1:21 1:36 1:51	2:21am 2:51

To Forest Park

Weekdays	Saturdays	Sundays
3:17am 3:47	3:17am 3:47	3:17am 3:47
4:02am 4:17 4:32 4:47 4:57	4:02am 4:17 4:32	4:02am 4:17 4:32 4:47
5:05am	4:45am	5:02am 5:17 5:32 5:47
		6:02am 6:17 6:32
		6:45am
every 9 to 10 minutes until	every 8 to 12 minutes until	every 12 to 13 minutes until
7:05am	10:05am	9:00am
every 3 to 14 minutes until	every 10 minutes until	every 8 to 15 minutes until
10:05am	7:05pm	12:00pm
every 6 to 10 minutes until	every 10 to 12 minutes until	every 10 to 15 minutes until
3:00pm	9:00pm	
every 10 minutes until	9:20pm 9:34pm 9:49	11:00pm
12:55am	10:34pm 10:19 10:34 10:49	11:09pm
1:03am 1:17 1:32 1:47	11:04pm 11:18 11:34 11:49 11:59	12:03am 12:17 12:32 12:47
2:02am 2:17 2:47	12:05am 12:19 12:39 12:51	1:02am 1:17 1:32 1:47
	1:04am 1:17 1:32 1:47	2:02am 2:17 2:47

24 Blue Line service operates 24 hours a day.



Travel Information:

- Phone: 312-836-7000
- TTY: 312-836-4949
- Website: transitichicago.com

Customer Information:

- Phone: 1-888-YOUR-CTA (1-888-968-7282)
- TTY: 1-888-CTA-TTY1 (1-888-282-8891)
- Website: transitichicago.com

Train Tracker Real-Time Arrivals:

- For next train arrival times on your computer or smartphone, visit transitichicago.com/traintracker.
- For next train arrival times on your mobile phone, text CTATRAIN RACN to 41411.
- Message and data rates may apply. Check with your mobile carrier first.



Figure A.4. Illinois Medical District

Blue Line

Illinois Medical District Station Timetable

Blue Line Trains

To O'Hare

Weekdays	Saturdays	Sundays
3:18am 3:33 3:48	3:18am 3:33 3:48	3:18am 3:33 3:48
4:03am	4:03am 4:18	4:03am 4:18 4:33 4:48
4:15am	4:35am	5:03am 5:18 5:33 5:48
		6:03am 6:18
		8:30am
every 8 to 12 minutes until	every 10 to 12 minutes until	every 8 to 15 minutes until
8:00am	7:00am	12:00pm
every 7 to 10 minutes until	every 7 to 12 minutes until	
3:00pm	10:00am	
every 3 to 8 minutes until	every 10 minutes until	every 12 minutes until
7:00pm	7:00pm	5:00pm
every 7 to 10 minutes until	every 10 to 12 minutes until	every 8 to 15 minutes until
	9:15pm 9:30pm 9:45pm	
	10:07pm 10:18 10:31 10:46	11:00pm 11:04 11:48
12:15am	11:07pm 11:18 11:31 11:46	11:00pm 11:04 11:48
12:25am 12:34 12:49	12:03am 12:18 12:33 12:49	12:00pm 12:18 12:33 12:48
1:00am 1:19 1:34 1:48	1:03am 1:18 1:33 1:48	1:00am 1:18 1:33 1:48
2:18am 2:48	2:18am 2:48	2:18am 2:48

To Forest Park

Weekdays	Saturdays	Sundays
3:18am 3:49	3:18am 3:49	3:18am 3:49
4:04am 4:19 4:34 4:49	4:04am 4:19 4:34	4:04am 4:19 4:34 4:49
5:03am	4:35am	5:04am 5:19 5:34 5:49
		6:04am 6:19 6:34
		8:50am
every 9 to 10 minutes until	every 8 to 12 minutes until	every 12 to 13 minutes until
7:00am	10:00am	9:00am
every 3 to 14 minutes until	every 10 minutes until	every 8 to 15 minutes until
10:00am	7:00pm	13:00pm
every 6 to 10 minutes until	every 10 to 15 minutes until	every 10 to 15 minutes until
8:00pm		
every 10 minutes until		
12:00am	12:00am	11:00pm
12:05am 1:19 1:34 1:49	12:05am 1:19 1:34 1:49	12:00pm 12:19 12:34 12:49
2:04am 2:19 2:49	2:04am 2:19 2:49	1:04am 1:19 1:34 1:49
		2:04am 2:19 2:49

Blue Line service operates 24 hours a day.

Travel Information:

- Phone: 312-836-7000
- TTY: 312-836-4949
- Website: transitchicago.com

Customer Information:

- Phone: 1-888-YOUR-CTA (1-888-968-7282)
- TTY: 1-888-CTA-TTY1 (1-888-282-8891)
- Website: transitchicago.com

Train Tracker Real-Time Arrivals:

- For next train arrival times on your computer or smartphone, visit transitchicago.com/traintracker.
 - For next train arrival times on your mobile phone, text CTATRAIN ILMD to 41411.
- Message and data rates may apply. Check with your mobile carrier first.



Figure A.5. Western Station

Blue Line

Western Station Timetable

Blue Line Trains

To O'Hare

Weekdays	Saturdays	Sundays
3:56am 5:31 9:49	3:18am 3:31 9:49	3:16am 3:31 9:49
4:01am	4:01am 4:18	4:01am 4:18 4:31 4:46
4:18am	4:30am	4:31am 4:46 5:31 9:46
every 8 to 12 minutes until 8:00am	every 10 to 12 minutes until 7:00am	every 8 to 15 minutes until 12:00pm
every 7 to 10 minutes until 8:00pm	every 7 to 12 minutes until 10:00am	every 12 minutes until 3:00pm
every 3 to 8 minutes until 7:00pm	every 10 minutes until 7:00pm	every 12 minutes until 5:00pm
every 7 to 10 minutes until 11:18am	every 10 to 12 minutes until 8:15pm	every 8 to 15 minutes until 11:06pm
12:22am 12:32 12:47	8:28pm 9:44 9:59	11:16pm 11:32 11:46
1:02am 1:17 1:32 1:47	10:14pm 10:29 10:44 10:59	12:01am 12:16 12:31 12:46
2:18am 2:48	11:14pm 11:29 11:44	1:01am 1:16 1:31 1:46
	12:01am 12:16 12:31 12:46	2:18am 2:48

To Forest Park

Weekdays	Saturdays	Sundays
3:21am 3:51	3:21am 3:51	3:21am 3:51
4:06am 4:21 4:36 4:51	4:06am 4:21 4:36	4:06am 4:21 4:36 4:51
4:06am	4:50am	5:06am 5:21 5:36 5:51
every 10 minutes until 7:00am	every 8 to 12 minutes until 10:00am	every 12 to 13 minutes until 9:00am
every 3 to 14 minutes until 10:00am	every 10 minutes until 7:00pm	every 8 to 15 minutes until 12:00pm
every 6 to 10 minutes until 8:00pm	every 10 to 15 minutes until 12:00pm	every 10 to 15 minutes until 11:00pm
every 10 minutes until 12:00am	12:00am	12:07am 12:21 12:36 12:51
1:07am 1:21 1:36 1:51	1:06am 1:21 1:36 1:51	1:06am 1:21 1:36 1:51
2:06am 2:21 2:31	2:06am 2:21 2:31	2:06am 2:21 2:31

Blue Line service operates 24 hours a day.



Travel Information:

- Phone: 312-836-7000
- TTY: 312-836-4949
- Website: transitchicago.com

Customer Information:

- Phone: 1-888-YOUR-CTA (1-888-968-7282)
- TTY: 1-888-CTA-TTY1 (1-888-262-8891)
- Website: transitchicago.com

Train Tracker Real-Time Arrivals:

- For next train arrival times on your computer or smartphone, visit transitchicago.com/traintracker.
 - For next train arrival times on your mobile phone, text CTATRAIN WESF to 41411.
- Message and data rates may apply. Check with your mobile carrier first.



Figure A.7. Kedzie-Homan Station

Blue Line

Kedzie-Homan Station Timetable

Blue Line Trains

To O'Hare

Weekdays	Saturdays	Sundays
3:13am 4:10am	2:13am 4:10am	3:13am 4:13am 5:13am 6:10am
every 8 to 12 minutes until	every 10 to 12 minutes until	every 8 to 15 minutes until
8:00am	7:00am	
every 7 to 10 minutes until	every 7 to 13 minutes until	12:00pm
3:00pm	10:00am	every 12 minutes until
every 3 to 8 minutes until	every 10 minutes until	5:00pm
7:00pm	7:00pm	
every 7 to 10 minutes until	every 10 to 12 minutes until	every 8 to 15 minutes until
12:20am	9:10pm	11:00pm
12:26am	9:25pm	11:16pm
1:14am	10:16pm	12:13am
2:13am	10:25pm	12:13am
	10:40pm	1:13am
	10:49pm	2:13am
	10:58pm	
	11:07pm	
	11:16pm	
	11:25pm	
	11:34pm	
	11:43pm	
	11:52pm	
	12:01am	
	12:10am	
	12:19am	
	12:28am	
	12:37am	
	12:46am	
	12:55am	

To Forest Park

Weekdays	Saturdays	Sundays
3:24am 4:00am 5:00am	3:24am 4:00am 4:50am	3:24am 4:00am 5:00am 6:55am
every 10 minutes until	every 8 to 12 minutes until	every 12 to 13 minutes until
7:00am	10:00am	9:00am
every 3 to 14 minutes until	every 10 minutes until	every 8 to 15 minutes until
10:00am	8:00pm	12:00pm
every 6 to 10 minutes until	every 10 to 15 minutes until	every 10 to 15 minutes until
8:00pm	12:05am	11:00pm
12:05am	12:05am	12:10am
1:11am	1:11am	12:24am
2:00am	1:24am	12:39am
	1:39am	1:06am
	1:54am	1:24am
	2:09am	1:39am
	2:24am	1:54am
	2:39am	2:09am
	2:54am	2:24am
		2:39am
		2:54am

Blue Line service operates 24 hours a day.



Travel Information:

- Phone: 312-836-7000
- TTY: 312-836-4949
- Website: transitchicago.com

Customer Information:

- Phone: 1-888-YOUR-CTA (1-888-968-7282)
- TTY: 1-888-CTA-TTY1 (1-888-282-8891)
- Website: transitchicago.com

Train Tracker Real-Time Arrivals:

- For next train arrival times on your computer or smartphone, visit transitchicago.com/traintracker.
- For next train arrival times on your mobile phone, text CTATRAIN KEDH to 41411.
- Message and data rates may apply. Check with your mobile carrier first.



Figure A.8. Pulaski

Blue Line

Pulaski Station Timetable

Blue Line Trains

To O'Hare

Weekdays	Saturdays	Sundays
3:11am 3:26 3:41 3:56 4:10am	3:11am 3:26 3:41 3:56 4:15am	3:11am 3:26 3:41 3:56 4:11am 4:26 4:41 4:56 5:11am 5:26 5:41 5:56 6:10am
every 8 to 12 minutes until	every 10 to 12 minutes until	every 8 to 15 minutes until
9:00am	7:00am	12:00pm
every 7 to 10 minutes until	every 7 to 13 minutes until	
3:00pm	10:00am	
every 3 to 8 minutes until	every 10 minutes until	every 12 minutes until
7:00pm	7:00pm	5:00pm
every 7 to 10 minutes until	every 10 to 12 minutes until	every 8 to 15 minutes until
12:15am	9:25pm 9:38 9:53	11:00pm
12:27am 12:42 12:57	10:04pm 10:22 10:38 10:53	11:12pm 11:26 11:41 11:56
1:12am 1:27 1:42	11:06pm 11:23 11:39 11:56	12:11am 12:26 12:41 12:56
2:11am 2:41	12:11am 12:26 12:41 12:56	1:11am 1:26 1:41
	2:11am 2:41	2:11am 2:41

To Forest Park

Weekdays	Saturdays	Sundays
3:26am 3:41 4:11 4:26 4:41 4:56 5:06am	3:26am 3:41 4:11 4:26 4:41 4:56am	3:26am 3:41 4:11 4:26 4:41 4:56 5:11am 5:26 5:41 5:56 6:11am 6:26 6:41
every 10 minutes until	every 8 to 12 minutes until	every 12 to 13 minutes until
7:00am	10:00am	9:00am
every 3 to 14 minutes until	every 10 minutes until	every 8 to 15 minutes until
10:00am	8:00pm	12:00pm
every 6 to 10 minutes until	every 10 to 15 minutes until	every 10 to 15 minutes until
8:00pm	1:00pm	11:00pm
12:55am	1:12am 1:26 1:41 1:56	12:12am 12:26 12:41 12:56
1:12am 1:27 1:42 1:57	2:11am 2:26 2:56	1:11am 1:26 1:41 1:56
2:11am 2:26 2:56		2:11am 2:26 2:56

24 Blue Line service operates 24 hours a day.

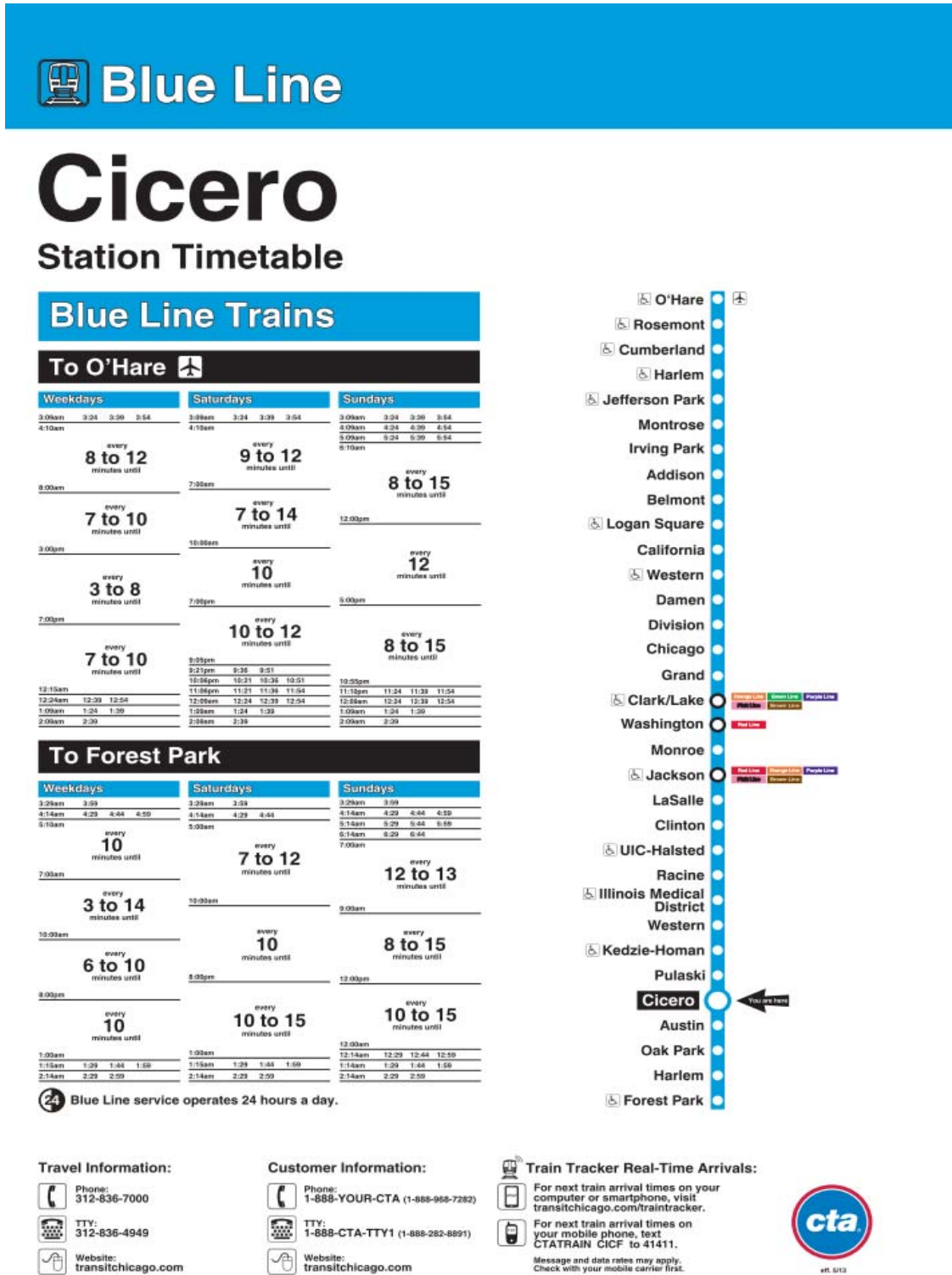
Travel Information:
 Phone: 312-836-7000
 TTY: 312-836-4949
 Website: transitchicago.com

Customer Information:
 Phone: 1-888-YOUR-CTA (1-888-968-7282)
 TTY: 1-888-CTA-TTY1 (1-888-282-8891)
 Website: transitchicago.com

Train Tracker Real-Time Arrivals:
 For next train arrival times on your computer or smartphone, visit transitchicago.com/traintracker.
 For next train arrival times on your mobile phone, text CTATRAIN PULF to 41411.
 Message and data rates may apply. Check with your mobile carrier first.



Figure A.9. Cicero Station



CTA Forest Park Branch
Vision Study

28

Service Patterns Analysis
Technical Memorandum

Figure A.10. Austin Station

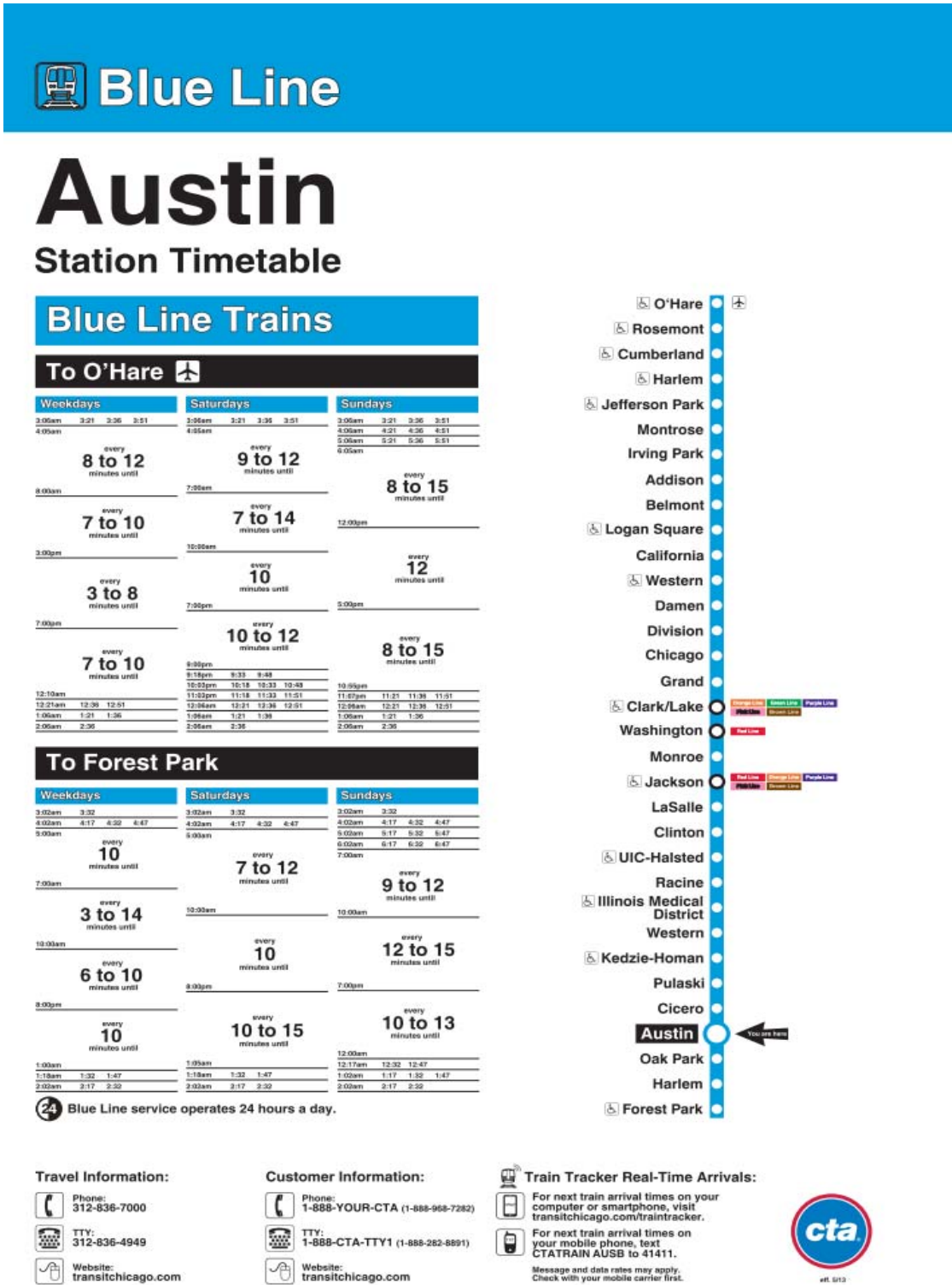


Figure A.11. Oak Park

Blue Line

Oak Park Station Timetable

Blue Line Trains

To O'Hare

Weekdays	Saturdays	Sundays
3:03am 3:19 3:35 3:48 4:00am	3:03am 3:19 3:33 3:48 4:00am	3:03am 3:19 3:35 3:48 4:03am 4:19 4:35 4:48 5:03am 5:19 5:35 5:48 6:00am
every 8 to 12 minutes until	every 9 to 12 minutes until	every 8 to 15 minutes until
8:00am	7:00am	12:00pm
every 7 to 10 minutes until	every 7 to 13 minutes until	
3:00pm	10:00am	
every 3 to 8 minutes until	every 10 minutes until	every 12 minutes until
7:00pm	7:00pm	5:00pm
every 8 to 10 minutes until	every 10 to 12 minutes until	every 8 to 15 minutes until
12:10am	3:00pm 3:15pm 3:30 3:45 3:50pm 4:05 4:20 4:35 4:40pm 4:55 5:10 5:25 5:40 5:45pm 6:00 6:15 6:30 6:45 6:50pm 7:05 7:20 7:35 7:50 7:55pm 8:10 8:25 8:40 8:55 9:00pm	10:50pm
12:19am 12:34 12:49	11:00pm 11:15 11:30 11:45	11:04pm 11:18 11:33 11:48
1:04am 1:19 1:34	12:33am 12:48 1:03 1:18 1:33 1:48	12:53pm 12:59 1:04 1:09 1:14
2:03am 2:31	1:03am 1:18 1:33 1:48 2:03am 2:31	1:03am 1:18 1:33 2:03am 2:31

To Forest Park

Weekdays	Saturdays	Sundays
3:03am 3:31 4:03am 4:18 4:33 4:48 5:00am	3:03am 3:31 4:03am 4:18 4:33 4:48 5:00am	3:03am 3:31 4:03am 4:18 4:33 4:48 5:00am 5:15 5:30 5:44 6:03am 6:18 6:33 6:48 7:00am
every 10 to 11 minutes until	every 8 to 12 minutes until	every 9 to 13 minutes until
7:00am	10:00am	10:00am
every 3 to 14 minutes until	every 10 minutes until	every 12 to 15 minutes until
10:00am	3:00pm	7:00pm
every 6 to 10 minutes until	every 10 to 15 minutes until	every 10 to 12 minutes until
3:00pm	1:05am	11:00pm
1:05am	1:05am 1:33 1:48 2:03am 2:18 2:33	12:00am 12:19 12:33 12:48 1:03am 1:18 1:33 1:48 2:03am 2:18 2:33

Blue Line service operates 24 hours a day.

Travel Information:

- Phone: 312-836-7000
- TTY: 312-836-4949
- Website: transitchicago.com

Customer Information:

- Phone: 1-888-YOUR-CTA (1-888-968-7282)
- TTY: 1-888-CTA-TTY1 (1-888-262-8891)
- Website: transitchicago.com

Train Tracker Real-Time Arrivals:

- For next train arrival times on your computer or smartphone, visit transitchicago.com/traintracker.
 - For next train arrival times on your mobile phone, text CTATRAIN OAKB to 41411.
- Message and data rates may apply. Check with your mobile carrier first.



Figure A.12. Harlem

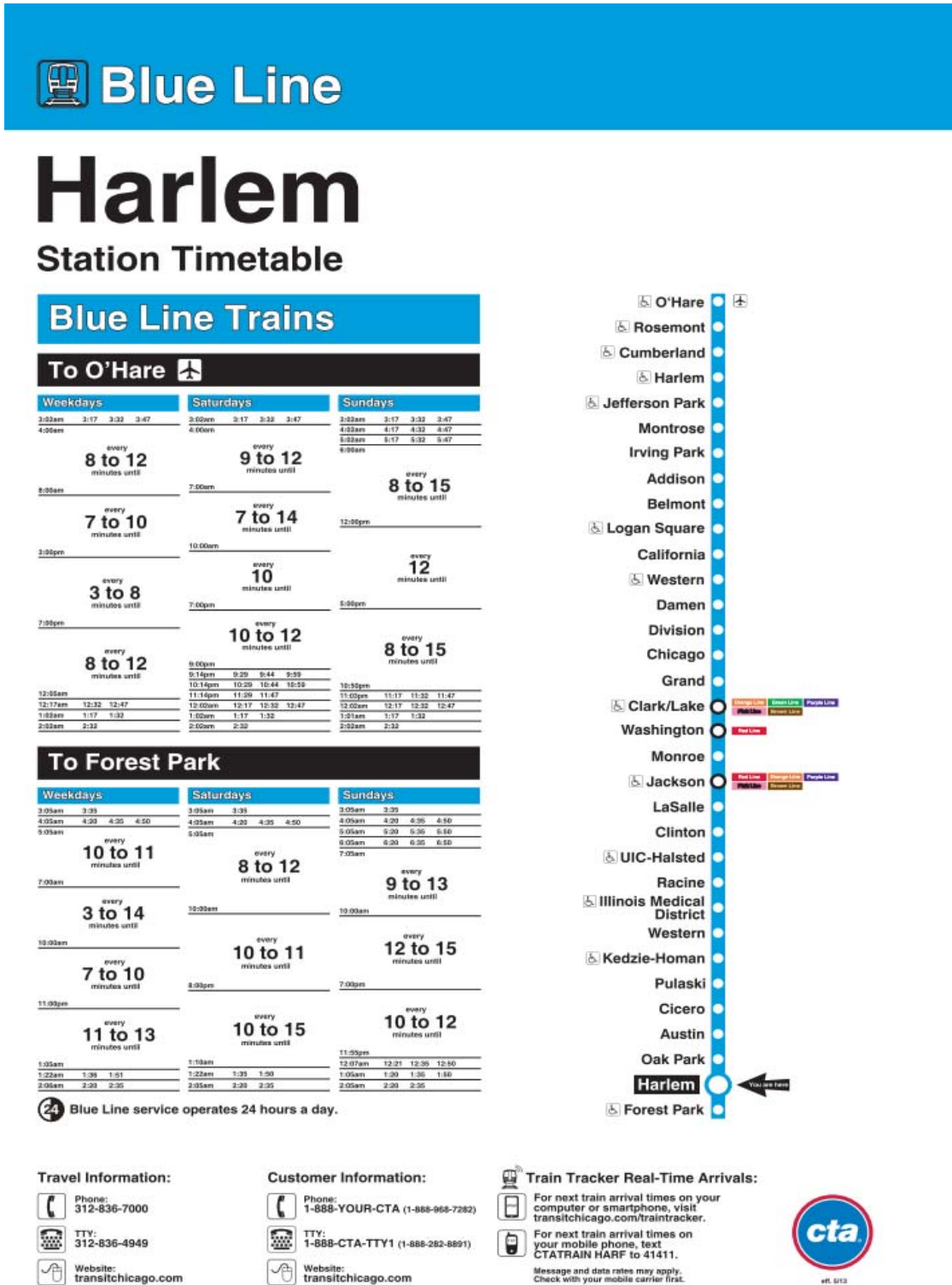


Figure A.13. Forest Park

