

A TYPICAL SUBURBAN SERVICE.

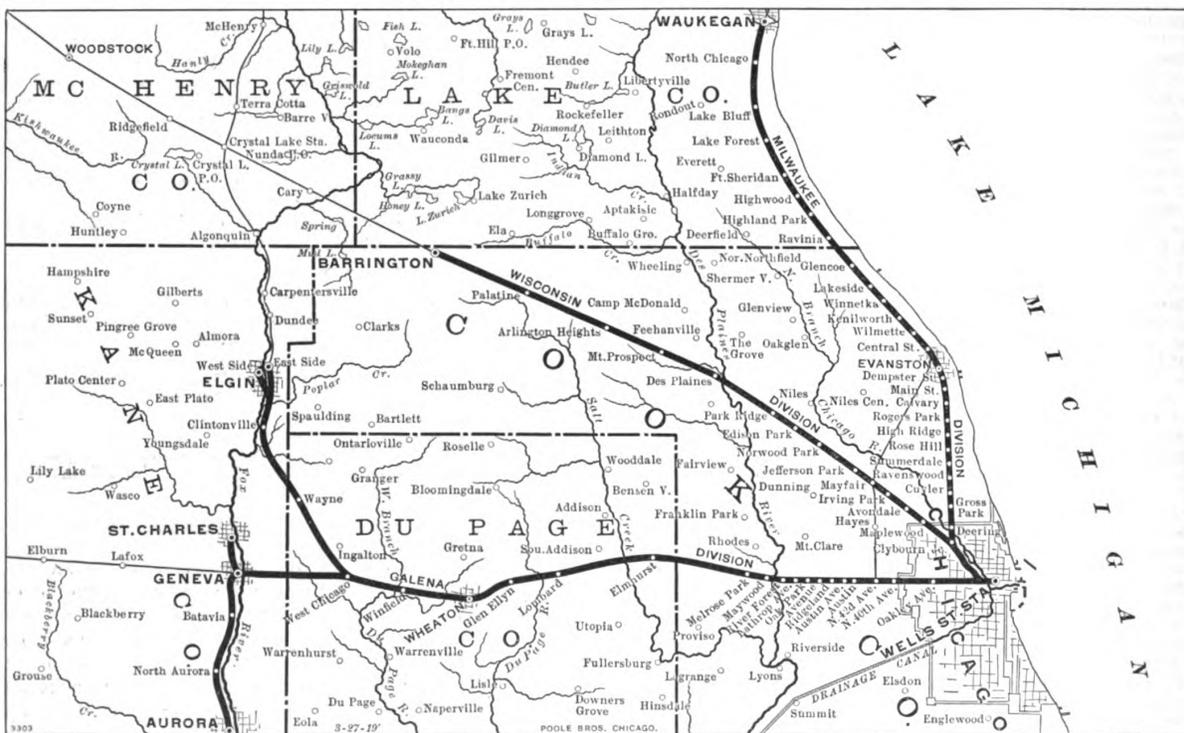
How the Chicago & Northwestern Carries the Rural Residents to and from Chicago.

"Wells street station! Do not forget your umbrellas and parcels." This is the cheerful announcement and admonition that salutes the ears of the 17,000 or more passengers who arrive daily at the Chicago terminus of the Chicago & Northwestern Railway on the trains, more than 125 in number, that bring suburban travel over the three divisions from the North, the Northwest and the West. And Wells street station is a busy spot—none more so in Chicago—as the incoming thousands meet an equal number of outgoing thousands, and the 259 trains roll in and out on their appointed tracks and times, as if moved by gigantic clockwork, through the day and night. One other railway in Chicago, the Illinois Central, carries more suburban passengers, but none handles so many at one terminal station as the Chicago & Northwestern. In respect not only to number of passengers and number of trains, but also in respect to

beautiful north shore, and will continue to demand frequent increase of transportation facilities. While the Northwestern is already paralleled by an electric line to Waukegan and beyond and also has the competition of another steam line as far as Evanston, it is sure of a heavy increase in its patronage all along the lake shore, and its management, judging from the improvements which it is continually making, has no fear about competition in that direction.

THE WELLS STREET TERMINALS.

Looking at the suburban train service of the Northwestern from an operative standpoint, one is at first impressed with admiration for the skill with which the immense movement of trains, through as well as suburban, freight as well as passenger, is handled along the narrow throat of two pairs of rails into which all the tracks entering and passing Wells street station are compressed by the necessities of the turnbridge across the north branch of the Chicago River. The accompanying plan of tracks in Wells street station shows the situation. It will be seen that there are eight tracks ending under



MAP OF SUBURBAN DISTRICT—CHICAGO & NORTHWESTERN RAILWAY.

age arrangements and limitations, character of equipment and some other features the suburban service of this company is remarkable, and will be found worthy of special study.

THE REGION SERVED.

The suburban district served by the three distinct lines of the Chicago & Northwestern Railway may be considered to extend north, on the Milwaukee division, to Waukegan, 36 miles; northwesterly on the Wisconsin division, to Barrington, 32 miles, and west, on the Galena division and its branches to Geneva, 35½ miles; Elgin, 42½ miles, and Aurora, 45 miles. The great bulk of the travel, however, is obtained within a limit of about 12 miles, and much the largest share of this is carried by the Milwaukee division. For the first six miles or so from Wells street station the lines run through thickly peopled parts of the city, well supplied with communication by cable and electric cars, so that the great majority of the regular commuters live along a stretch of only half a dozen miles, commencing about 6 miles out on each division. On the Milwaukee division, however, although Evanston, 12 miles out, is at present largest contributor to this suburban travel, there are a score of stations beyond which supply large numbers of commuters, and the movement of population is strong and inevitable along the

the trainshed, three through tracks continuing under Wells street viaduct and about a dozen freight switch tracks and sidings, all of which concentrate upon the two-track bridge which is almost incessantly opening and closing for vessels during the season of navigation. Just across the river the two tracks are intersected at grade by the tracks of the Evanston branch of the Chicago Milwaukee & St. Paul, which in turn crosses the river on a bridge just beyond the Kinzie street wagon bridge shown in the drawing, and is equally liable to be blocked by passing vessels, thus adding its trains to the dangers to be avoided by the Northwestern's dispatchers. Add to this two street crossings at grade, crowded with teaming traffic, just beyond the St. Paul's crossing, a few feet farther on the junction of the Galena and Wisconsin division tracks, and immediately adjacent the yards between which and Wells street trains are constantly being moved in making up or distributing, and it can be imagined that the trainmaster and signal men have a tremendous task to keep engines and cars from frequent and destructive meetings. When it is remembered that in the busiest hours of the morning and evening trains must get in or out of the station at the rate of one in every 30 seconds the intricacy of the dispatchers' work can be imagined, though

not understood. Here is the week-day schedule of regular trains leaving and arriving at Wells street station in the two busiest hours of the morning and evening, respectively.

000 people in and out of the great trainshed and the "annex" sheds into which the traffic during certain hours has overflowed. The fact that, in spite of the innumerable and uncontrollable impediments which are liable to develop from the physical conditions referred to, the timetable service is so closely maintained is notable evidence of the high degree of skill and efficiency to which the operative force of the Northwestern has been brought

DEPARTURES FROM 7 TO 9 A. M.

Name of Train—	Time A. M.
Milwaukee	7:00
Desplaines	7:01
Evanston	7:05
Freeport and Williams Bay	7:05
Melrose Park	7:15
Des Moines	7:25
Evanston	7:25
Harrington	7:30
Evanston	7:35
Maywood	7:43
Empty Coaches	7:50
Evanston	7:55
Elmhurst	8:06
Fond du Lac	8:10
Kenosha	8:30
Evanston	8:30
Green Bay	9:00
Minnesota and St. Paul.	9:00

DEPARTURES FROM 4:15 TO 6:15 P. M.

Name of Train—	Time P. M.
Sterling and Lake Geneva	4:15
Kenosha	4:15
Beloit and Janesville	4:25
Maywood	4:25
Glencoe	4:30
Desplaines	4:30
Evanston	4:35
Freeport	4:45
Waukegan	4:45
Elmhurst	4:48
Glencoe	4:50
Ashland	5:00
Winnetka	5:02
Watertown	5:05
Aurora	5:05
Lake Forest	5:10
Evanston	5:12
Crystal Lake	5:14
Elmhurst	5:17
Evanston	5:17
Glencoe	5:20
Waukegan	5:23
Evanston	5:29
Omaha	5:30
Desplaines	5:30
Aurora	5:35
Winnetka	5:38
Rogers Park	5:40
Evanston and Junction Ry.	5:42
Waukegan	5:45
Maywood	5:47
Main Street	5:50
Desplaines	5:50
Evanston	5:55
Waukegan	5:59
Barrington	6:01
Elgin and Aurora	6:04
Main Street	6:05
Evanston	6:10
Desplaines	6:12
Maywood	6:12
Lake Forest	6:15
Evanston	6:15

Number of trains 43

The tables show 18 departures and 41 arrivals, or 59 train

ARRIVALS FROM 7 TO 9 A. M.

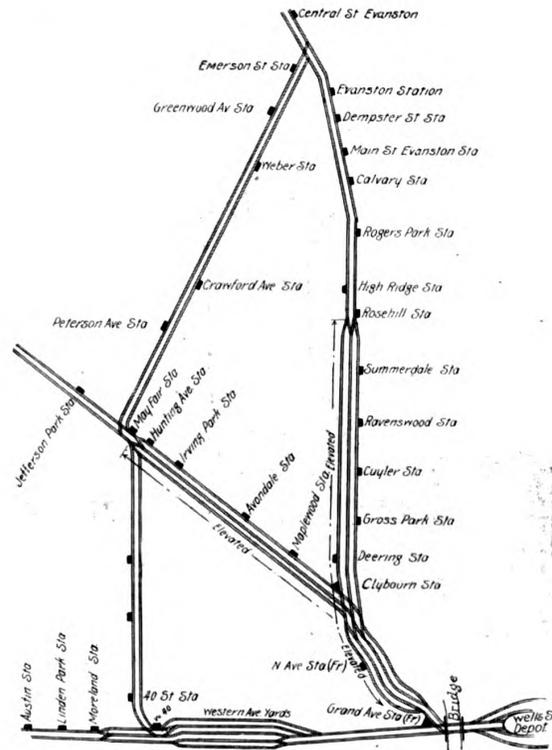
Name of Train—	Time A. M.
Duluth Limited	7:00
Glencoe	7:00
West Chicago	7:13
Evanston	7:15
Waukegan	7:20
Desplaines	7:25
Summerdale	7:28
Ishpeming	7:30
Main Street	7:30
Evanston	7:35
Maywood	7:38
Winnetka	7:40
Atlantic Express	7:42
Evanston	7:43
Waukegan	7:45
Elgin	7:45
Barrington	7:46
Summerdale	7:47
Evanston	7:50
Aurora	7:54
Main Street	7:55
Waukegan	8:00
Winnetka	8:05
Barrington	8:10
Evanston	8:10
Waukegan	8:15
Maywood	8:16
Evanston	8:20
Kenosha	8:30
Melrose Park	8:32
Evanston	8:33
Sioux City and Dakota Ex.	8:34
Crystal Lake (Galena Div.)	8:37
Evanston	8:39
Crystal Lake	8:40
Waukegan	8:45
Aurora	8:50
Glencoe	8:52
Evanston	8:55
Maywood	9:00
Evanston	9:00

Number of trains 41

ARRIVALS FROM 4:15 TO 6:15 P. M.

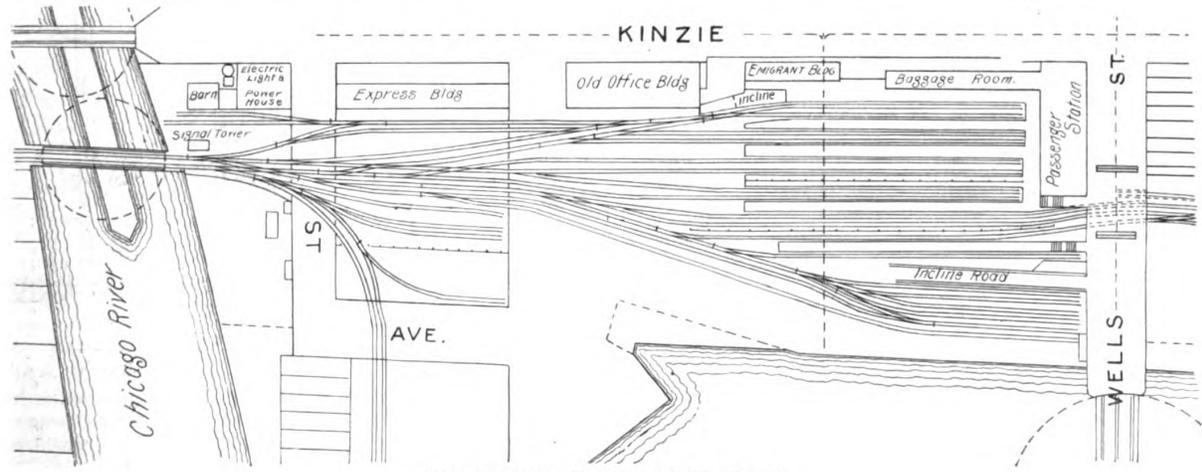
Name of Train—	Time P. M.
Waukegan	4:15
Glencoe	4:35
Desplaines	4:43
West Chicago	4:43
Evanston	5:40
Lake Forest	5:45
Freeport and Williams Bay	5:50
Evanston	5:50
Minnesota	6:05
Green Bay	6:10
Elmhurst	6:10
Empty Coaches	6:15

Number of trains 12



CHICAGO & NORTHWESTERN SUBURBAN TRACAGE ARRANGEMENT.

under the present management. The commuter is apt to be also a "kicker" on slight provocation, but he finds little occasion to kick in regard to the comfort or punctuality of the Northwestern's suburban service. Occasionally he may think to fume when an incoming train is stopped by a turned bridge or when an outgoing train is passing a crossover, but if he understood



PLAN OF TRACK AT WELLS STREET STATION.

movements in the two hours between 7 and 9 a. m., and 43 departures and 12 arrivals, or a total of 55 movements in the two hours between 4:15 and 6:15 p. m.

The suburban trains alone number about 125, carrying 35-

the situation he would the rather wonder and be thankful that detentions on these crowded tracks are so few and slight.

TRACAGE ARRANGEMENT.

Once across the river the trains on the Wisconsin division

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have a straight run to the west over a double track stretch. At and beyond Western avenue a tangle of switching tracks, a grade crossing of the C. M. & St. P. and a freight branch leading to the southern part of the city are encountered and passed at good speed, nearly 2 miles of the distance, from California avenue to North Forty-second avenue, being over an elevated roadbed on solid embankment, with from three to six tracks providing against blockades. From West Fortieth street an important cut-off track, about 12 miles in length, connects the three divisions, joining the Milwaukee division near Evanston and forming an additional route for certain suburban trains running to points north of that place. It also forms a belt line for freight and frees the busy tracks of the Milwaukee division from obstruction by that class of traffic. The Galena division carries a large suburban business to and from Austin,

service which for frequency, speed, character of equipment and grade of patronage is justly a matter of pride to the management and of great satisfaction to the fastidious north shore residents. The track arrangement is now sufficient for handling promptly the tremendous morning and evening business, but further extension of supplemental tracks will be required in the near future.

The line between Wells street station and Clybourn Junction, 2.9 miles, consists of four tracks for passenger trains and freight trains



CLYBOURN JUNCTION—MILWAUKEE AND WISCONSIN DIVISIONS.

Oak Park and numerous suburbs beyond, although for 8 miles and more it is paralleled by the Lake street elevated and two or three electric surface roads. These offer 5-cent fares all the way to Oak Park, 8.6 miles, while the Northwestern's rate on 25-ride tickets is 10 cents, and on 10-ride tickets 12 cents. Although the 5-cent routes do a large business, much of which represents additional population attracted farther out from the city, the great superiority of the Northwestern service in respect to speed, seating accommodations and general comfort and "selectness" holds a large and increasing patronage. The low commutation rates extend to the important cities of Elgin, 42½ miles, and Aurora, 45 miles, and a ride of about an hour carries many of their residents to and from Chicago daily at a cost, on monthly tickets, of about 20 cents per trip.

The Wisconsin division serves a chain of pretty but not very populous suburbs, for the first 8 miles supplied also with electric lines from the city, and in the summer season carries a fine traffic to the fashionable resorts on Lake Geneva, 70 miles,

and two switching leads which keep switch engines entirely clear of all main line trains. Between Clybourn Junction and Rosehill, 4.9 miles, there are three main tracks. The tracks are thoroughly protected by electric automatic signals.

The Milwaukee division is paralleled as far as

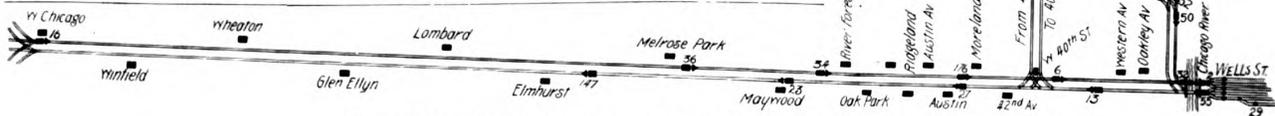
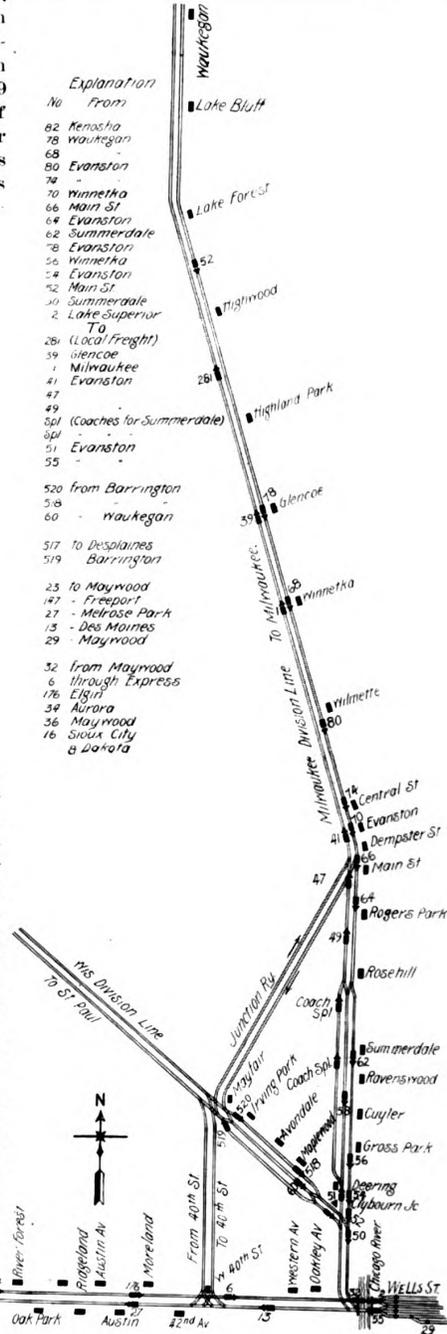


DIAGRAM OF POSITION OF TRAINS ON THREE DIVISIONS AT 7:30 A. M.

and to the lake regions of Southern Wisconsin. At Clybourn Junction, 2.9 miles from Wells street, where the Wisconsin and Milwaukee divisions diverge, the transfer of passengers has become so extensive that the company has built a handsome brick station house set in a well-kept lawn and forming a pleasing picture in a crowded and unattractive part of the city.

The Milwaukee division, paralleling the shore of Lake Michigan northward for 85 miles, has developed a line of some 30 suburban villages and cities of great natural beauty and surpassing attractions for residence, and gives them a suburban

Evanston, 12 miles, by the Evanston branch of the C. M. & St. P., and by a combination of cable, elevated and surface electric lines, and from that point to Waukegan, 36 miles from Chicago, by an electric road running large, comfortable cars at considerable speed. But although these routes have developed a large business, particularly in the summer, the suburban resident beyond a point six or eight miles out values the luxuriousness of the Northwestern service above the saving of cents coupled with the loss of hours, and the regular commutation business of the steam road is steadily increasing.



- Explanation
- | No | From |
|---------------------|--------------------------|
| 62 | Kenosha |
| 78 | Waukegan |
| 68 | - |
| 80 | Evanston |
| 74 | - |
| 70 | Winnetka |
| 66 | Main St |
| 64 | Evanston |
| 62 | Summerdale |
| 78 | Evanston |
| 56 | Winnetka |
| 74 | Evanston |
| 72 | Main St |
| 70 | Summerdale |
| 2 | Lake Superior |
| To | |
| 28 | (Local Freight) |
| 39 | Glenwood |
| 1 | Milwaukee |
| 41 | Evanston |
| 47 | - |
| 49 | - |
| 51 | (Coaches for Summerdale) |
| 49 | - |
| 51 | Evanston |
| 55 | - |
| 520 from Barrington | |
| 518 | - |
| 60 | Waukegan |
| 517 to Desplaines | |
| 519 | Barrington |
| 25 to Maywood | |
| 147 | Freeport |
| 27 | Melrose Park |
| 13 | Des Marnes |
| 29 | Maywood |
| 32 from Maywood | |
| 6 | through Express |
| 176 | Elgin |
| 34 | Aurora |
| 36 | Maywood |
| 16 | St. Louis City & Dakota |

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NUMBER OF TRAINS.

With the topography of the three divisions now in mind the complex character of the problem of handling the traffic in the terminal station will be better understood. The accompanying diagram indicates the position of all trains on the road at a given moment, in the morning, within a few miles of Chicago, and indicates that the dispatcher has his hands more than comfortably full. No less than 46 trains are shown in action in this limited radius:

The suburban timetables of the three divisions at the pres-



INTERIOR OF LAKE FOREST STATION.

ent time—in January—show the following numbers of daily week-day trains:

	Outgoing.	Incoming.	Total.
Milwaukee division	66	64	130
Wisconsin division	29	28	57
Galena division	38	34	72
Totals	133	126	259

In the summer season the number of trains is materially greater.

WORKING OF THE ELEVATED SECTIONS.

All the traffic, passenger and freight, on each of the three divisions, was worked over two main tracks, with turn-outs, until the recent completion of roadbed elevation within the city limits allowed the addition of some 15 miles of third track, with some stretches of fourth, fifth, sixth and seventh track, which has greatly increased the capacity and speed of the service. The accompanying diagram shows the number of tracks and the length of roadway already elevated, the figures for which are as follows:

Miles of elevated track on each division:

	Track system.	Miles.
Milwaukee division—		
Chicago avenue to Clybourn place..	(4, 6 and 7 track)	1.8
Clybourn place to Rosehill.....	(3 track)	4.7
Wisconsin division—		
Clybourn place to Hunting avenue....	(3 track)	4.8
Mayfair to Addison St., on cut-off....	(2 track)	.9
Galena division—		
California avenue to N. 42d avenue..	(3, 5 and 6 track)	1.8
Kinzie St. south to Ogden Av (Freight Line).....	(3 track)	1.8
Total elevated mileage		15.8

On the Milwaukee and Wisconsin divisions the tracks are elevated for a distance of 7 miles out of Chicago. In this district there are no grade crossings, and passengers at stations

reach their track by subways, instead of crossing the road. Here three tracks are used for the handling of traffic on both divisions. The use of the third track is regulated in the following manner: Between 12 midnight and 12 noon, in order to handle the heavy traffic entering Chicago during the morning hours, all suburban and all through trains not stopping locally in this district are run over the centre track; and between 12 noon and 12 midnight, to take care of the heavy traffic out of Chicago during the evening hours, all northbound trains and through trains not stopping locally in this district are run over the centre track. An interlocking tower is placed at either end of this third-track district, regulating the trains passing on to it. The traffic on all three of these tracks is also protected by the Hall automatic electric signal.

The use of subways and fences between station tracks enables through trains on the centre track to pass stations regardless of traffic on outside tracks, without danger to passengers. The use of the centre track in this manner in the third-track district enables the company to start fast suburban trains for points north of that district five minutes later than local trains, passing them in this 7-mile district, thereby shortening their time to suburban points further north. The same is true with regard to travel southbound in the morning, whereby trains having made stops at outlying suburban points are enabled to

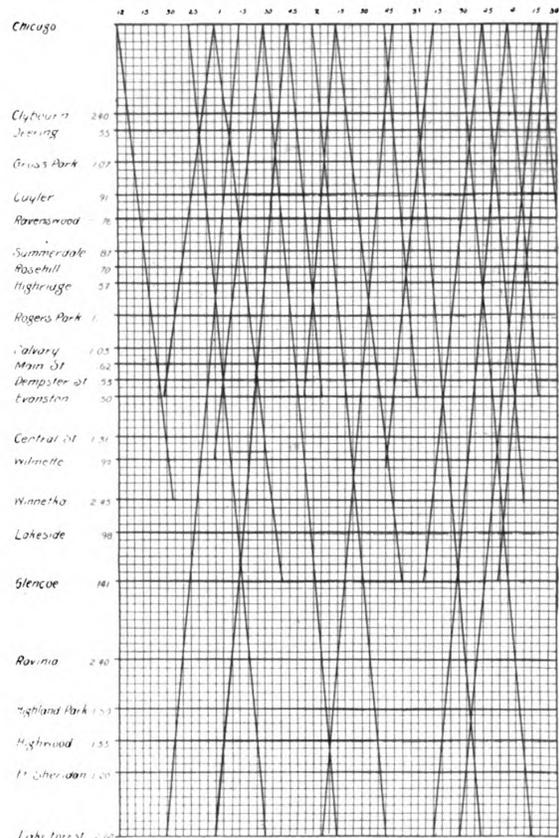


DIAGRAM SHOWING METHOD OF MAKING UP TIME TABLES.

pass those stopping locally in this district, thereby making shorter time to Chicago.

EXPRESS SUBURBAN SERVICE.

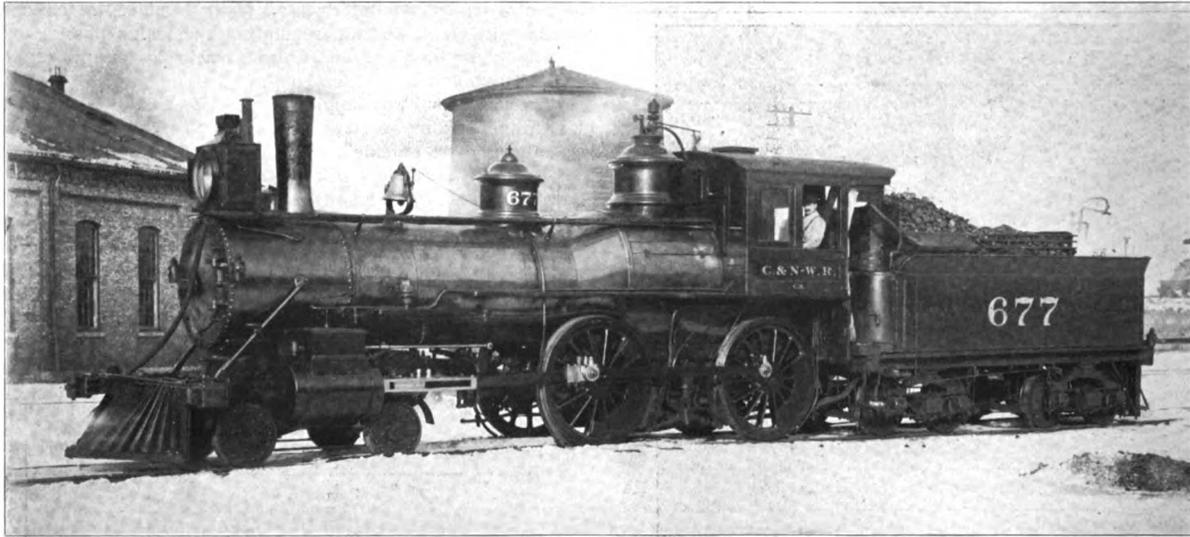
All of these divisions are laid with 90-pound steel rail and the best of fittings, making a roadbed of unsurpassed excellence. These advantages make it possible to give passengers living at distant suburban points express train service at high speed and with great regularity. Here are some examples taken from a suburban folder of the time to and from various stations by express trains, making few or no intermediate stops:

	Miles.	Minutes.
To Ravenswood	6.2	13
Rogers Park	9.4	18

Main Street, Evanston	11.0
Evanston	12.0
Winnetka	16.8
Highland Park	23.2
Lake Forest	28.3
Waukegan	35.9
Maywood	10.4
Wheaton	24.9

19 of keeping a number of trains moving back and forth on a
 22 stretch of double track without running into each other is
 30 greatly complicated on the Northwestern, with its three diverg-
 33 ing divisions, and its different classes of suburban trains, express
 41 and local, short run and long run, moderate speed and high
 50 speed, switching and crossing over, using right-hand, left-hand
 19 or centre track, according to differing conditions of the service,
 36 with the necessity, now and then, of throwing the whole ma-
 chinery of movement out of joint to meet an emergency; and

When it is remembered that these figures include the time spent in getting out of the crowded station, crossing the bridge—



CHICAGO & NORTHWESTERN SUBURBAN LOCOMOTIVE.

which is liable to be turned, necessitating higher speed to make up for lost minutes—working through the yards, avoiding the switching trains, looking out for the grade crossings in the open and paying due respect to speed regulations in suburban municipalities, it is seen that skilful superintendence, alert dispatching and fast running are necessary. A 60-mile gait is frequently reached or passed; but the heavy coaches show no unsteadiness, the wheels purr smoothly over the even joints, the gas lamps

all these movements choked down, in either direction, to the narrow throat of a double-track drawbridge. Referring again to the suburban timetable, it appears that, on one division only, and in but one direction, there are certain trains that run only to Main street and back, others to Evanston only, others to Winnetka, some to Glencoe, a few to Highland Park, others to Lake Forest, and many to Waukegan or through to Milwaukee. Going back and forth, stopping, switching, waiting at stations,

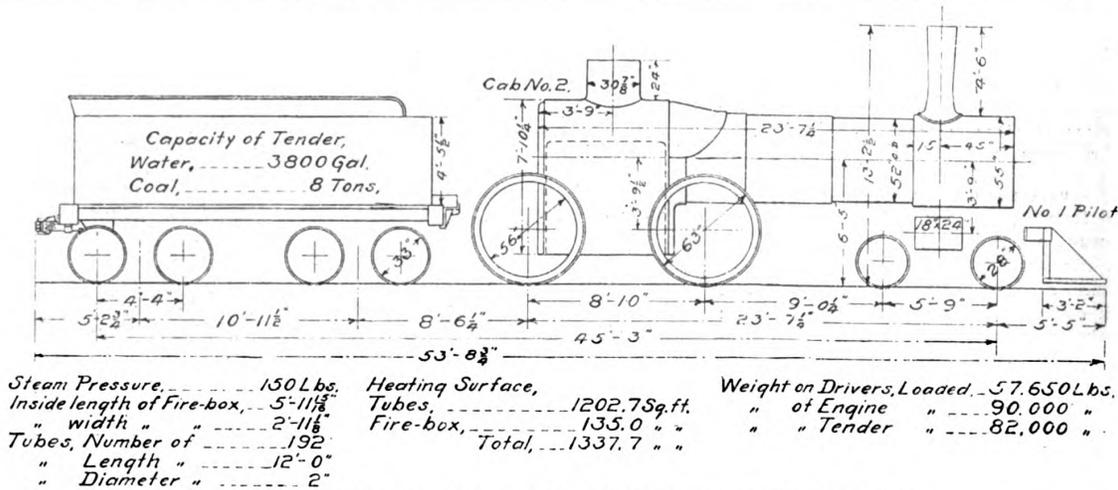


DIAGRAM WITH DIMENSIONS—CHICAGO & NORTHWESTERN SUBURBAN LOCOMOTIVE.

do not flicker, and the passengers, immersed in the evening papers, read on, unconscious of the speed, until the trainman from each door shouts the familiar name of the home station, and the commuters step out, comfortably rested and ready for dinner.

MAKING THE TIMETABLES.

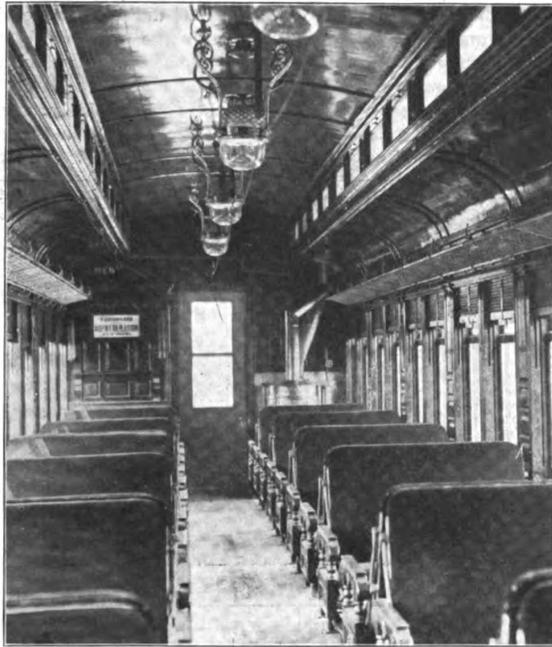
The construction of a working timetable for the multitude and variety of trains using Wells street station is an intricate task, requiring unusual operative ability. The ordinary problem

these have all got to keep out of each other's way and serve their differing traffic in the best possible manner, and it is no small trick to place the chess so that the game will be successful. As many people who may read this article, including a large proportion of railway men not connected with the operative department, may not be familiar with timetable construction, it will be well enough to describe the method of laying out the movements:

The timetable is prepared by means of a chart, which is

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a sheet of paper about 20 feet long by 6 feet broad. This sheet is divided into parts by means of lines running up and down the sheet at right angles to each other. On each side of the sheet, at varying distances, according to the proportionate distance of one station from another, are placed the names of the



INTERIOR OF SUBURBAN COACH.

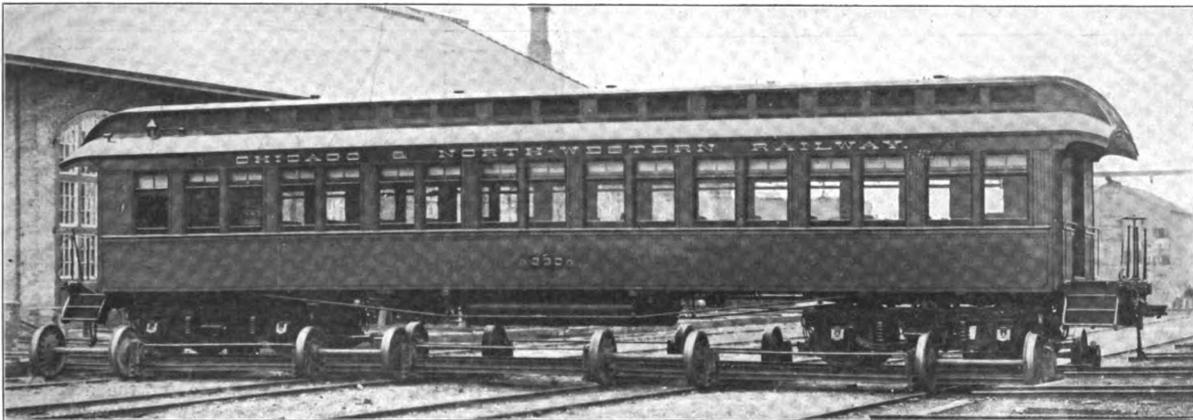
stations, and at the top of the sheet is placed the time, from 12 midnight of one day to 12 midnight of the next day. The downward lines are 5-minute lines; the horizontal lines represent the mileage between stations. Each train is represented by a thread; one color for freight trains, another for suburban passenger, another for through passenger, etc. The end of the thread is attached to a pin, which is inserted opposite the station from which it starts at the time at which it starts. The thread is then drawn down or up, so that it is opposite each sta-

tion at the time it is due to arrive there, and so on to the end. Thus, in the making of a timetable, these threads cross and recross each other, and under the eye of the compiler is shown the position of the trains at respective times and stations, whereby he can avoid conflicting rights. Trains which run on the southbound track or in a southerly direction are also distinguished from those running in an opposite direction by the different color of their thread.

from among the dozen of crowded tracks. The trains are indicated by the usual device of a conspicuous board at the head or side of each track, topped by a clock dial with movable hands, and having slots for the reception of slides bearing the names of the stations which that particular train is to serve; also by gatemen stationed at each gate at the rear of train. It is plain sailing for the ordinary wayfaring man during the more leisurely parts of the day; but in the rush hours, when trains are moving in and out at the rate of one every half minute, the changes of position are apt to bewilder a novice. On the three "through" tracks, for instance, trains may be standing bulletined on the respective boards for Lake Forest, Barrington and Elmhurst, and behind them, waiting to pull up when they move out, may perhaps be trains for Evanston, Desplains and Maywood. The board can designate only one train at a time, but the experienced commuter stands calmly by, knowing that "my train" will pull up next, and will then be duly indicated on the board. It is no sinecure for the alert board operators to withdraw the station names as the train pulls out, swing around the dial hands to the next train time, and slide in the new names of stopping places. Now and then, the situation is complicated by an incoming train getting a little off its time and being shunted in on another track than the one indicated by the bulletin board for its departure. Then the board is hurriedly moved and the waiting passengers flock over to the other track, the trainmen at each platform call out the destination, and the train is speedily loaded and off. Complications like these, although they are rare, are the result of insufficient track room for the traffic already existing, and which is increasing at a rate that will ere long compel more tracks, or a radical change in the method of handling. A loop system, which would obviate backing in on stub tracks and keep trains moving out in one direction on their given schedules, would seem to be the ideal arrangement, and it may sometime be practicable. Meantime, the occasionally unreasonable commuter who is impatient if his train is half a minute off time in leaving or arriving should reflect on what it means to handle so complicated a traffic under such limitations, and wonder that it is done with such close approach to perfection.

THE LOCOMOTIVE EQUIPMENT.

The Northwestern does not think that any old engine will do for the suburban service. Switch engines and lazy freighters are not given the honor of hauling this favored traffic. For suburban service the C. & N. W. Ry. is using an 8-wheel engine,



CHICAGO & NORTHWESTERN SUBURBAN COACH.

tion at the time it is due to arrive there, and so on to the end. Thus, in the making of a timetable, these threads cross and recross each other, and under the eye of the compiler is shown the position of the trains at respective times and stations, whereby he can avoid conflicting rights. Trains which run on the southbound track or in a southerly direction are also distinguished from those running in an opposite direction by the different color of their thread.

"WHICH IS MY TRAIN?"

It requires some experience on the part of suburban passengers to select "the first train out" for their varied destinations

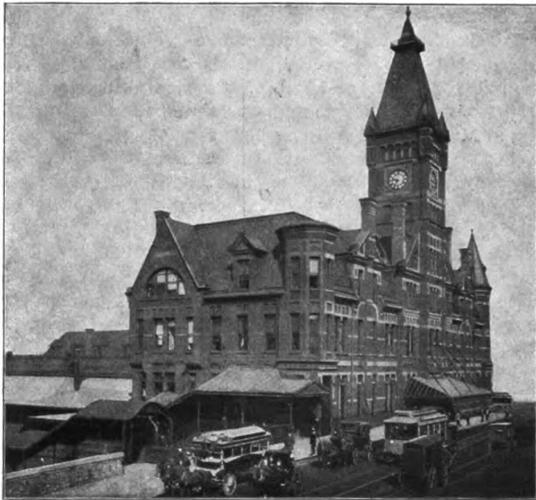
with cylinders 18 by 24 inches; driving wheel, 63 inches, outside measurement, of Schenectady build. The tractive force is 14,800 pounds, and the engine is capable of pulling eight coaches without difficulty at a speed of 50 miles an hour. It is known to railroad men as a 48-ton engine—this being the weight for the engine alone, not including tender. The cost is about \$9,000 each.

The amount of coal consumed on a trip of 30 miles is from one ton to a ton and a quarter. The best bituminous coal money can buy is used in the suburban service, in order to insure greater cleanliness and less smoke, though all of the suburban

engines are equipped with the most efficient smoke consumers known. An engine in the same length of trip will consume between 2,000 and 3,000 gallons of water.

Running light, these engines will attain a speed of 70 to 80 miles an hour. With a full load they often reach 60 miles an hour, this high speed being unnoticed by the passengers, owing to the excellence of the track and weight of the cars.

The average life of these engines in the suburban service



WELLS STREET STATION—CHICAGO & NORTHWESTERN RAILWAY.

is 15 years, those now in service averaging about 10 years of age. Engines receive general repairs every 15 to 24 months. The running parts are, of course, chiefly those requiring renewal gear and tires. While an engine is in service in the 15 months to two years referred to, the tender wheels and truck wheels are changed two or three times; these are what is known as "light repairs," or, in railroad parlance, "running repairs."

The number of locomotives in the suburban service is as follows:

Galena division (between Chicago and Elgin and Aurora).....	18
Milwaukee division (between Chicago and Waukegan).....	27
Wisconsin division (between Chicago & Barrington).....	7

Total 52
On all of the divisions the engines are backed up in one



FORT SHERIDAN STATION—MILWAUKEE DIVISION.

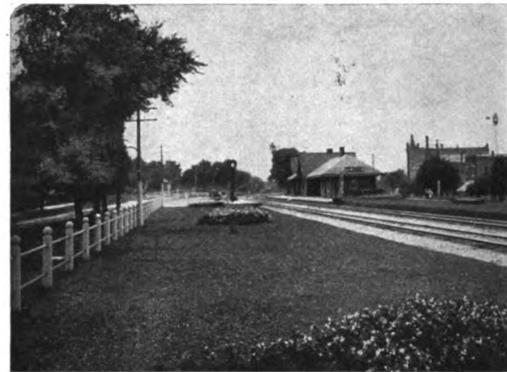
direction on all short runs, within a distance of 15 miles from Chicago; on longer runs they are turned at outlying points, for example, at Lake Forest, Barrington, Waukegan, Elgin, West Chicago and Aurora—these places being provided with turntables.

THE CAR EQUIPMENT.

The coaches in service for suburban passengers are all of modern construction, and in design the same as the first-class coach used in the through service. As a measure of safety it has not been thought well to have the suburban cars of the light design used by some railways for this kind of service. All cars are equipped with modern appliances—steam heat, with regulating devices and lamps burning Pintsch gas, of sufficient illuminating power to enable a passenger to read comfortably

in any part of the car. There is a notable feature in connection with the heating of the cars, fresh air being taken into the cars by means of a jack and discharging into the radiators directly inside of the door, whence the warm air is spread over the floor surface of the car. The device will ordinarily change the entire atmosphere of a car every few minutes.

Reversible seats are used of the Scarritt design, luxuriously upholstered and unexcelled in comfort for the occupant. The seats are arranged that no two persons face each other, unless they so desire; but, owing to the reversible feature, a party of four adults can engage in conversation with considerable privacy. The only advantage gained by the ordinary construction of suburban cars, with longitudinal seats facing each other, is the sav-



GLEN ELLYN STATION—GALENA DIVISION.

ing of time in the entering and leaving by passengers. In the C. & N. W. cars the comfort of passengers has first been considered, and any time lost in entering and leaving (loading and unloading) is sought to be made up in the power of the engines and increased speed of the trains while in transit. The seats of all ladies' coaches are covered with the best French plushes, while the smoking cars have seats of leather or rattan. The materials last mentioned have been found from long experience to be the best for smoking cars, as they do not retain the odors of tobacco. Many of the cars are fitted with modern curtains of the Forsythe design, instead of wooden blinds, and have continuous basket-racks overhead, which extend from one end of the car to the other, furnishing ample room for parcels, umbrellas, coats, etc. In fact, it has been the aim of the manage-



ELMHURST STATION—GALENA DIVISION.

ment to provide all forms of convenience for the accommodation and comfort of suburban patrons. In the forward car of trains making the longer runs, tables are provided, and in some cases club cars are attached, fitted with hinged tables, with the seats so arranged as to make it convenient for persons to make the best use of the tables. This feature has been found to be much appreciated by very many of the patrons of the road who travel to and from the city daily.

The capacity of the cars is from 56 to 62 persons, all provided with seats. Toilet arrangements are provided both for ladies and gentlemen. Fresh water (and, in the summer, ice water) is also furnished by the service.

Quick-acting automatic air brakes are attached to each car and the modern air signal, whereby the engineer can be signaled

