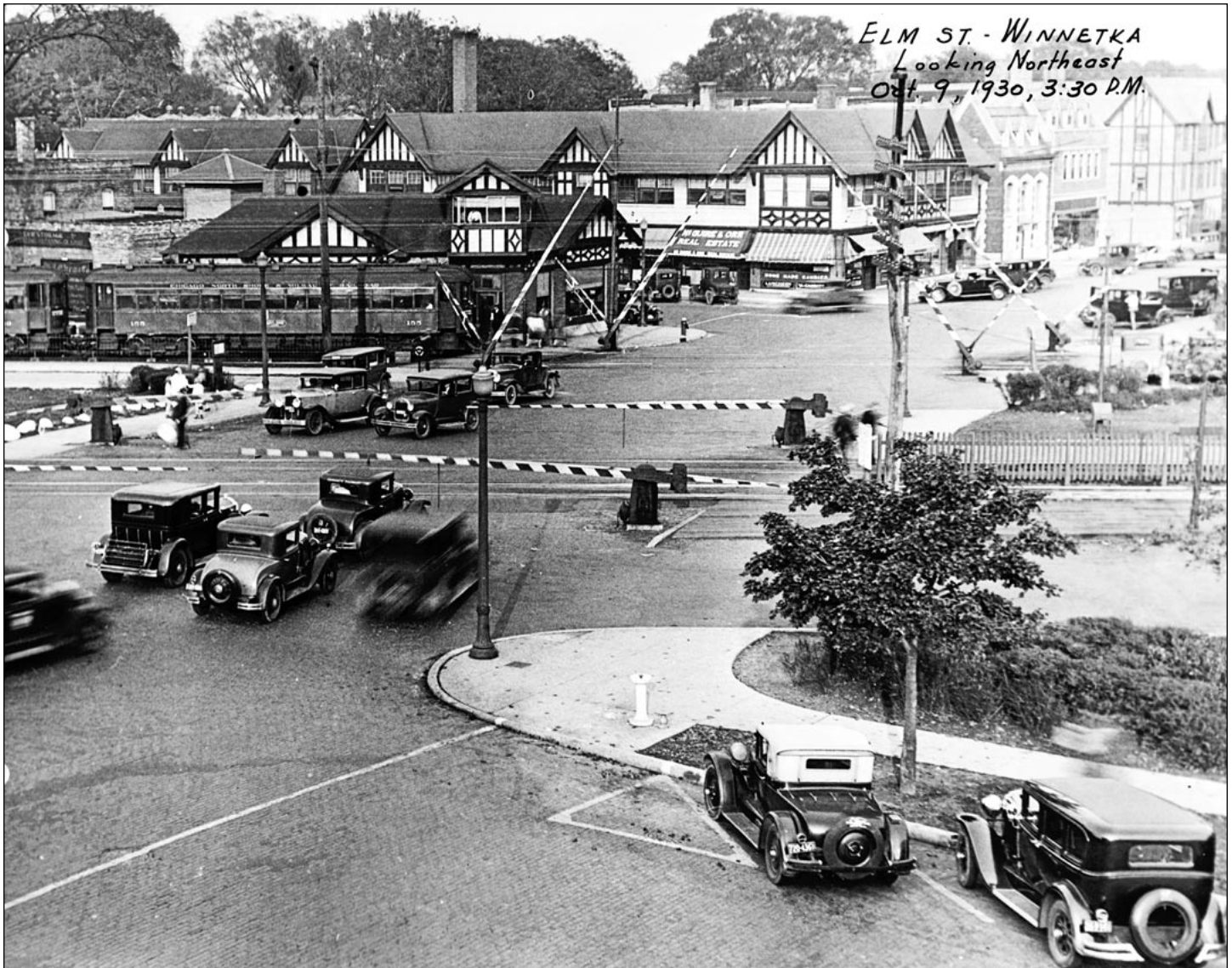


# Winnetka Grade Separation

Condensed from a Thesis by Robert L. Anderson  
Research by Norman Carlson and Walter R. Keevil



▲ Car 155, one of the original series of steel cars that were delivered to the Chicago & Milwaukee Electric in 1915, is on the rear end of a northbound Shore Line Route train to Waukegan. It is stopped at the Elm Street station in Winnetka at 3:30 p.m. on October 9, 1930. The station building survives in its modified form in 2025. Note the “Devil’s Strip” between the two railroads. The Chicago & North Western’s tracks are in the foreground.—  
*Courtesy of Winnetka Historical Society*

## Introduction

In 1854 the Chicago and Milwaukee Railroad (C&M), an Illinois Corporation, commenced service from Chicago to the Wisconsin state line. A Wisconsin Corporation of the same name completed the rail line to Milwaukee. In 1869 these two railroads were merged into the Chicago & North Western system (CNW). In July 1855 C&M added an “accommodation train” that ran south in

the morning from Waukegan to Chicago. This train returned to Waukegan in the late afternoon. This roundtrip became the first commuter train in the Chicago area.

One of the stations was named Wynnetka. When the village was incorporated in 1869 the spelling was Winnetka. The name of the village comes from the Potawatomi Indian word meaning beautiful land. The stops of this train were based on where Walter S. Gurnee, one time

mayor of Chicago, had real estate investments. The president of the railroad was William B. Ogden who also served as a mayor of Chicago.

In the September 10, 1863, edition of the *Chicago Tribune*, an advertisement was placed by someone who had moved from Chicago: “Rural Residence Grounds for sale—a beautiful residential lot, containing 3-½ acres of the richest soil, situated in the village of Wynnetka, 16 miles north of





▲ In November 1938, one month before construction started, we are looking northeast across Elm Street at the North Shore Line's main station in downtown Winnetka.

▶ We are looking south across Elm Street down the North Shore's right-of-way. C&NW's main station in Winnetka is at the right.

▼ Carmine DeSanto was one of the crossing flagmen at Oak Street.—Three photos courtesy of Winnetka Historical Society



Chicago on the Chicago and Milwaukee Railroad. A Very Desirable Location for a person doing business in Chicago. Trains run morning and evening to accommodate residents." This is very early evidence of the marketing of suburban development of

what became known as the "railroad suburbs of Chicago."

In 1899 the Chicago & Milwaukee Electric Railway (C&ME) extended its streetcar railway in Waukegan and North Chicago through Winnetka to Church

Street, Evanston, thus becoming an interurban railroad. In 1916 C&ME emerged from bankruptcy as the Chicago North Shore & Milwaukee (CNS). From approximately 24th Street in North Chicago to Greenleaf Avenue in Wilmette C&ME built its railroad immediately adjacent to the east side of CNW. In some cases, the railroads were above the level of the adjacent streets and the two railroads in some cases were at different elevations, C&ME being the lower of the two due to using a combination of private rights-of-way and village streets.

The presence of these two railroads was both a blessing and a curse. They provided easy access between Chicago and the north shore suburbs which stimulated population growth. In the 1800s the horse and buggy were the principal means of transportation. Automobiles and paved roads made travel much easier further impacting suburban growth. As the number of pedestrians, horse and buggies, automobiles and cyclists grew, this led to what was described as confusion at the railroad grade



▲ Train number 5 is approaching the Pine Street grade crossing at 8:53 a.m. on April 23, 1928. Note the number of sidings and industrial tracks. In this era the C&NW had a significant number of freight customers between Chicago and Waukegan. In 2025 the only remaining freight customer is in North Chicago. ▼ The C&NW's main station in downtown Winnetka during November 1938. It was located just south of Elm Street.—Two photos courtesy of Winnetka Historical Society



crossings in Winnetka. In 1909 there were between 250 and 300 trains passing through Winnetka each day. During the 1930s there were about 200 trains daily. As early as 1906 the village engineer had recommended grade separating by lowering the tracks.

In 1930 the Roosevelt Administration created the Public Works Administration (PWA) to fund public infrastructure projects to create jobs during the Great Depression. Harold Ickes, a former Winnetka resident, was the Secretary of the Interior and the Administrator of PWA. With help from Ickes, an agree-

ment was obtained that PWA, Winnetka and the two railroads would fund 45%, 29% and 26% of the grade separation project, respectively. Construction started on December 19, 1938. The railroad portion of the work was completed on May 31, 1940. It was not until 1943 that the bridge and roadway work was completed. The total project length was 3.51 miles.

What follows is an extract from a thesis by Robert L. Anderson, who joined the Winnetka village staff in 1929. His career started in building construction and municipal engineering. In 1935 he was appointed the village's Superintendent of Public

Works. In this role he was the “owner” of the grade separation project. His involvement with the grade separation project began in 1929 as Secretary of the Winnetka Plan Commission. The thesis was prepared in 1941 in partial fulfillment of the requirements to earn a degree in civil engineering from Northwestern University.

### History

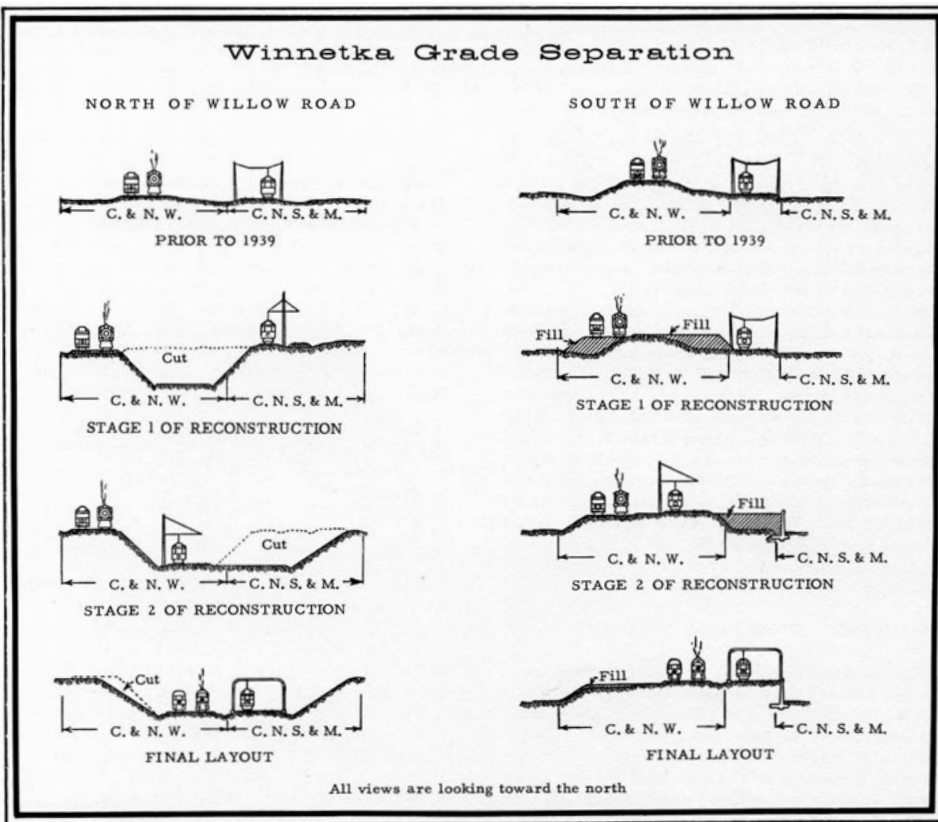
Winnetka grew slowly from a little community which incorporated itself as a village in 1869. At first the CNW railroad station served as the village hall until it burned in 1871, taking with it to oblivion the early village records. By the 1890s the suburban railroad traffic possibilities looked good enough to attract competition. In 1898 C&ME acquired a franchise and sufficient right-of-way to construct their railroad from North Chicago through Winnetka to Evanston.

The C&ME's recurring financial troubles and receiverships suggest this may have been an ill-advised venture, but the road served a useful purpose and played its part in development of the north shore suburbs. The advent of this second railroad brought the recognition that railroads are not unmixed blessings. In the heads of at least a few of the more visionary citizens there was the desire and hope that in some way the disadvantages of dirt, noise, delay and the increasing grade crossing accident toll might be eliminated, and yet the advantages of good transportation would be retained.

CNW had by 1910 carried its elevation through Evanston. The management expressed its intention to “extend the separation of grades throughout the north shore to Waukegan as rapidly as finances will permit.” Considerable thought and study to the project in general, and particularly into the relative merits of depression and elevation of the tracks. Rough plans and sketches were made and the Village Council received a report concluding strongly in favor of depression despite its somewhat higher cost. As in Evanston and elsewhere, it was deemed that the major part of the cost would be borne by the railroads. Winnetka was obligated to share in funding the bridges and underpasses. The entire cost was estimated at about \$1.5 million.

When the Winnetka Plan Commission was established in 1918 its job was to look ahead for the physical development of the

## Winnetka Grade Separation



◀ This schematic of where the railroad tracks were located during each construction phase was created by George Krambles and William C. Janssen.—Krambles-Peterson Archive

A petition was entered before the Illinois Commerce Commission for a “certificate of public convenience and necessity” requiring the railroads to install “an elaborate highly mechanized system of grade crossing protection.”

The Village Council decided to appoint a joint committee consisting of two village trustees and two members of the Plan Commission to give the matter some more detailed attention and present a report. This report was quickly completed on June 18, 1938, recommending employment of a consulting engineer. The engineer was also to be directed to give attention to an idea of long standing, but hitherto deemed not workable, of “pooling” rights-of-ways between the two railroads. By this means a much narrower cut could be used and the expense greatly reduced in other ways as well.

Village. The idea of grade separation was resurrected and studied again in some detail. In 1919 the Village Council decided that to accomplish the project would require more up-to-date and more complete plans. The services of H.C. Lothholz, former Grade Separation Engineer for the Chicago, Milwaukee and St. Paul Railroad, and Harry Carton, a structural engineer, were engaged. Their plans would be the basis for a petition to the Illinois Commerce Commission (ICC).

During the period pending the filing of this petition, the interest of the entire north shore was awakened to the possibility of the extension of the depression on north through Highland Park. The boom times of the late twenties made anything seem possible, and projects of this type received public acclaim. Then the 1930 depression put an end to dreams of early accomplishment.

The Winnetka Plan Commission attempted to keep interest alive in Winnetka, especially in the Indian Hill section, at the south end of the village. The topography there made elevation imperative, and there was much opposition to the erection of a “Chinese Wall” and a death-trap subway proposed in the plan. Long after hope of accomplishment of the project in this form had died, the Indian Hill Improvement Association was still fighting for a lower grade line through

the elevated section and the elimination of a vehicular subway.

In 1935 the first federal funding programs brought some hope that “easy money” could be obtained for at least the Winnetka section. An effort was made to proceed. Providing substantial local funding remained a serious problem. The continued increase in congestion at the Winnetka Avenue crossing in Indian Hill due to the growth of the New Trier High School traffic caused increasing demands from the Indian Hill Improvement Association for some relief. At this stage interest in the project was at low ebb.

Interest in a grade separation was brought sharply back into focus by a tragic accident on Halloween night 1937, which cost the lives of two popular and prominent women. They were killed at the Pine Street crossing by a CNW suburban train that was backing through the suburbs to their Chicago Passenger Terminal. These two women were returning from the Halloween festivities at the Community House. As a result of this incident public indignation was aroused. The Council decided that something would have to be done immediately to ensure better safety conditions at the crossings. Since 1912 railroad crossing accidents in Winnetka had cost the lives of 31 people, including these two women, plus many injuries.



◄ As a preliminary to the first grading operation—tracks and three stations were built for the temporary operation of the Chicago & North Western Railway Company along the westerly side at the right-of-way. These facilities—contracts I and II—were completed early in 1939 at a cost of \$342,000 by C.E. Carson & Co. and Deckert and McDowell, Contractors. This view shows the first cut completed in the space formerly occupied by the North Western tracks between the temporary tracks on the right and the North Shore tracks at the left.—*Courtesy of Northwestern University*



▲ The first grading operation and storm sewers completed—fine grading preliminary to construction of permanent tracks for North Western shown here. Note temporary North Western Elm Street Station facilities at left.—*Courtesy of Northwestern University*



▲ Willow Road originally went under C&NW and the North Shore. On May 19, 1939, the C&NW bridge has been removed and filled in and the trench for the permanent C&NW track that was used temporarily by the North Shore is being leveled to the new gradient. A two-car North Shore train is approaching their bridge over Willow Road on their original alignment.—*Courtesy of Winnetka Historical Society*

ing the law relating to bonding resources and found that the village's debt limit was \$1,135,000. Fortunately, the Village's financial position was excellent so that virtually the entire bonding power was available. Under the PWA regulations, a 45% grant would be contributed, but the railroads' share presented a more difficult financial problem.

Both railroads were in receivership and capital outlays impossible, so the only theory upon which any contribution on their part could be expected was one in which their annual expenses would not increase. Annual operating costs would be reduced by elimination of crossing protection expense and other operating expenses which would result in an annual \$20,000 savings. In addition, the railroads would incur long term maintenance savings due to the betterments of their infrastructure. The financial study determined possible resources of \$3,500,000. The construction estimates were \$4,860,000 for the original plan and \$3,450,000 for the "A" plan.

On August 15, 1938, the Village Council received the DeLeuw report and decided to go ahead with the filling of the funding applications. This was authorized by resolution on August 16 and filed on August 18. Much to the surprise of all concerned the plan was immediately deemed by the federal government as a desirable program and an allotment for a grant and a loan to finance the railroads' share was made on September 22. After more than thirty years, the project at last had a possibility of realization!

Public interest was at a high pitch. The Village Council felt it had progressed to the point where an expression of the public opinion was necessary before proceeding further, but here again the time schedule created difficulty. The PWA requirement that construction must start by December 20 or 22 left no time for a for-



◀ Gage Street is in Hubbard Woods. Digging of the first trench is underway on May 25, 1939. Note the Merchandise Dispatch car now in work service coupled to two flat cars. Please note in the prior photo how North Shore's two main tracks are between the pole lines. In this photo it appears that pole line has been moved to between the two main tracks.—*Courtesy of Winnetka Historical Society*

▼ Excavation is well underway south of Elm Street on July 27, 1939. This width of the cut is necessary to provide for the low-level platforms for C&NW and North Shore's high-level platforms.—*Courtesy of Winnetka Historical Society*

mal referendum vote before continuing with negotiations and plans. Accordingly, the Village Attorney was directed to file a petition before the ICC. A real estate expert was engaged to deal for needed property, there being no time for condemnation proceedings. Negotiations regarding financing were started.

The DeLeuw firm was engaged on a tentative basis to proceed with the first working plans. One of the first of the difficulties which plagued the project made its appearance. CNS was shut down by a strike for six weeks. There were concerns that CNS would never be able to resume operation in view of their financial plight. The only course open was to proceed on the theory that CNS would resume operations, or CNS could be dropped from the

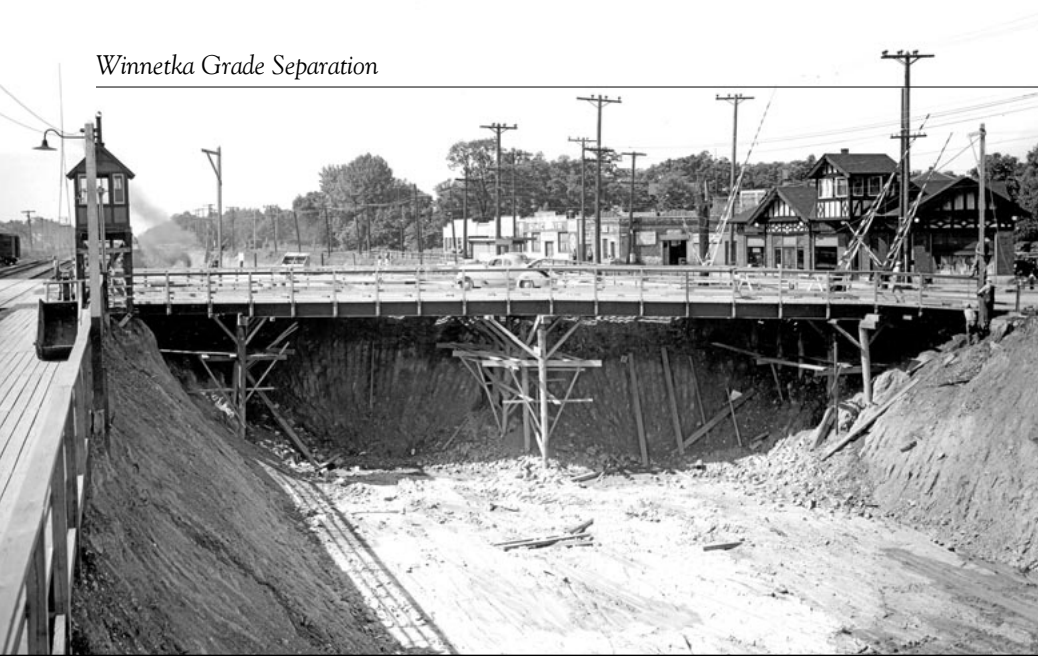


picture before starting construction. Fortunately, the strike was settled in time to include CNS.

The most crucial issue to be resolved was the contemplated rental for CNS to occupy CNW right-of-way at stations. No



▲ We are looking north toward Eldorado Street on August 3, 1939. In 1934 the CNW commenced operations of trains 400 and 401 to travel the 400 miles between Chicago and St. Paul-Minneapolis, Minnesota, in 400 minutes. Four large Pacific-type steam locomotives were rebuilt to operate at 100 mph. The original 400s were designed to compete with Chicago Burlington & Quincy's *Zephyrs* and Milwaukee Road's *Hiawathas*. On June 2, 1939, E3 diesel units were delivered by Electro Motive. Over the summer of 1939 these diesels replaced the steam engines on the 400s operating between Chicago and the Twin Cities. This is one of the few photos of the 400s with diesels hauling the heavyweight coaches that were originally assigned to the 400s.—*Courtesy of Winnetka Historical Society*



▲ At Elm Street a temporary bridge was constructed south of the permanent street alignment to facilitate construction of the permanent bridge. This is the state of construction on August 10, 1939.—*Courtesy of Winnetka Historical Society*



▲ Pine Street is two blocks north of Elm Street. Winnetka is known for its series of streets named after classifications of trees. On August 10, 1939, we are looking north at the digging of the first trench. A southbound suburban train is approaching. We clearly see that there is now a single pole line between North Shore's two main tracks and there is only a single bracket arm on the C&NW pole line as a result of the new system for Western Union.—*Courtesy of Winnetka Historical Society*

progress was made for some time. CNW demanded \$20,000 per year while CNS maintained it could pay nothing if it were to continue to operate. The time became shorter until finally it appeared the whole project would fall through if agreement could not be reached within another day. Village President William Moulton and Mr. Robert Kingery of the Chicago Regional Planning Association, a member of the Joint Committee, who was responsible for much of the preliminary and promotional work on the project, arranged a meeting for a Saturday noon with CNW's

president Fred W. Sargent and CNS's receiver A. A. Sprague.

When all were together, as the story goes, William Moulton locked the door, put the key in his pocket and announced all would stay until an agreement was reached. While Fred Sargent fretted over missing a big football game for which he had tickets, they discussed the issue for several hours, finally emerging with a compromise agreement, CNS would pay an annual rental of \$5,000 to CNW. The signed contract then had to be confirmed by the courts having jurisdiction over the

receiverships of the two railroads. The resulting court confirmations were the basis for an ICC order of "convenience and necessity," approving and ordering the project construction.

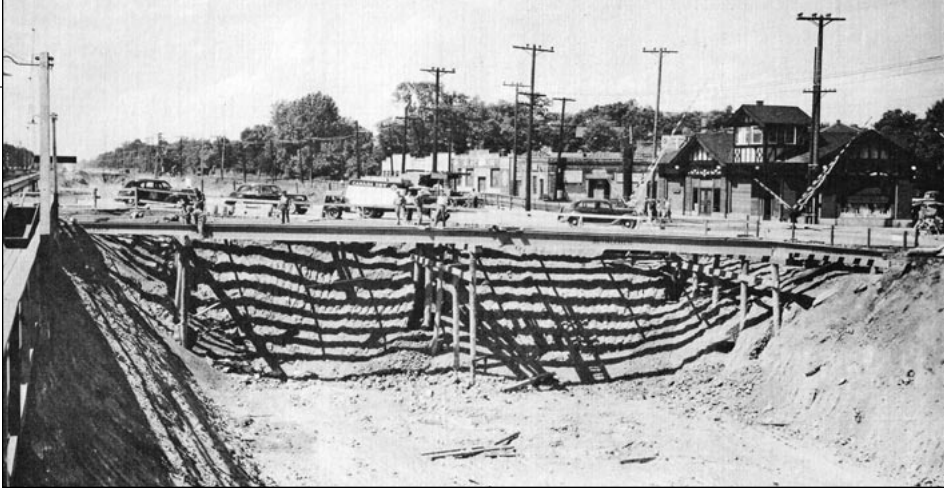
Under PWA rules, construction must start by December 20 or 22, 1938. It was thus out of the question to be able to prepare final plans for the entire project to have one contractor for all work. Thus, it was necessary to break up the work into smaller contracts. The first of which was rushed through to meet the starting date covered CNW's signal system, grade crossing protection, leased wires, and other property. Next were contracts for construction of temporary station buildings and temporary CNW and CNS tracks and incidental work to clear the way for the main project. On December 19, 1938, construction work started on grading for the temporary CNS tracks to be shifted north of Pine Street. Thus began a unique and highly complicated project.

Note: The start date required by PWA is not consistent in the original sources.

### Physical Features

The final decision as to the general layout of the project was not greatly different from the concept proposed 35 years previously. The concept was driven by the terrain traversed by the railroads. The line of the two railroads is intersected at Willow Road by a pre-historic shore of one of the early stages of Lake Michigan, which now forms a 43-foot rise in the otherwise quite flat country. This makes the terrain north of Willow Road at an elevation as much as 90 feet above the lake level. Within two miles northbound trains faced a 43-foot incline. This resulted in CNW having a gradient of 0.7% from south of Winnetka Avenue northward for two miles. There was a shorter but correspondingly heavier grade on CNS.

Obviously by continuing at a level gradient from Winnetka Avenue north, the track would be down some 20 feet below ground level by the time the area north of Willow Road was reached. This is exactly how the depression was accomplished. Because of the elevation already existing in Evanston and the probability that it would be continued northward eventually through Wilmette and Kenilworth, the logical transition point was at the change in the surface elevation at Willow Road.



◀ Initial excavation was confined to sections between arterial streets. Three highway bridges, two pedestrian bridges and one by-pass vehicular subway—all temporary—were built for the public convenience during the construction period. This view shows temporary North Western tracks and platform at left and temporary highway bridge at Elm Street under construction.—*Courtesy of Northwestern University*



▲ Contract XI covered the construction of permanent highway bridges. Deckert and McDowell, Contractor. Total cost—\$250,000. The continuous beam design combines simplicity of construction, economy and attractive lines. This view shows construction of the Elm Street bridge. Note temporary North Western Winnetka Station in background.—*Courtesy of Northwestern University*

▶ North Shore traffic was transferred for temporary operation to the permanent North Western tracks (shown at the right) on November 28, 1939. The original North Shore tracks were then removed, which permitted the completion of the second excavation on the east and building the east half of the permanent highway bridges.—*Courtesy of Northwestern University*





▲ On November 28, 1939, 11 months after construction started, the first southbound North Shore train is operating on what will become the C&NW's permanent right-of-way. Most likely this train is at Elm Street.—*Courtesy of Winnetka Historical Society*



▲ On February 15, 1940, this southbound is running on what will become the permanent C&NW main lines. North Shore's infrastructure has been removed from its right-of-way in preparation for construction of the new infrastructure. We are looking north from Woodland Avenue, two blocks north of Winnetka Avenue in the transition from the cut to the elevation.—*Courtesy of Winnetka Historical Society*

In approving this project, the railroads, particularly CNW, had to keep in mind their relation to the final layout. Accordingly, the question of grade resolved itself largely by having a grade at Winnetka Avenue as high as possible to accommodate the vehicular underpass while at the same time staying low enough to get clearance under the first overhead crossing at Cherry Street, 4,200 feet north. This estab-

lished a level stretch from Kenilworth to Winnetka Avenue. From Cherry Street north the grade line was adjusted to not over .02% to avoid excessive cuts north to Scott Avenue at the north end of Winnetka. At this point the "run-out" section begins, providing the transition from the Winnetka cut to existing grade to the north. This "run out" section is entirely in the Village of Glencoe, and is some 3,900

feet long, reaching the old grade just south of South Avenue, Glencoe.

This gradient line thus fixed the major features of the project as consisting of a cut from Willow Road north and a fill from that point south, the amounts of dirt involved being roughly 950,000 cubic yards of excavation and 109,000 cubic yards of fill for the elevated section. CNW's property was acquired by federal grants in the 1850s. A 99-foot wide right-of-way extended in a straight line through Kenilworth, Winnetka and Glencoe. At station sites this width was increased by 50 feet on each side to a total of 199 feet, although some of these station grounds have since been changed by additional acquisitions or disposals principally for public purposes.

By the time C&ME appeared on the scene they had to obtain their right-of-way by purchase or condemnation of private lands adjoining CNW and by franchise over public streets to curve around CNW station grounds at Elm Street and in Hubbard Woods. Eliminations of these bends by lease of CNW property made it possible for the plan to be completed.

In several locations CNS's right-of-way through private sections was inadequate in width. This necessitated the purchase of 21 parcels of real estate, of which two were complete lots and residences. Demolition of the existing residences was necessary. In one case the building was moved by the owner to a nearby lot. These purchases eliminated the need for constructing retaining walls which would be very expensive to construct.

Aside from the two main line tracks, each railroad had sidings to be considered. It was necessary to keep these in operation during construction. Permanent facilities were needed for the following CNW facilities: Pine Street Team track, Winnetka Avenue siding and the Mercer Lumber Company access in Hubbard Woods. CNS had a crossover and stub end siding at its Indian Hill station at Winnetka Avenue for New Trier High School trains. In addition to their two existing main tracks, both railroads had long range plans to add two additional tracks. All permanent structures were accordingly required to provide side clearances and bridge widths sufficient for these proposed tracks.

Railroad facilities to be considered included signal systems, an extensive



**WINNETKA GRADE SEPARATION PROJECT**  
**Contract V**  
**Excavation north of Elm St.,**  
**Cut # 2**  
**Looking: East**  
**Progress Photograph No. (165)**  
**Date: February 29th, 1940**

▲ On February 29, 1940, North Shore's right-of-way is being excavated to provide room for the new Elm Street station.—*Courtesy of Winnetka Historical Society*

leased wire system on CNW's right-of-way operated by Western Union, station facilities and CNS's electrification. These systems proved to be the most troublesome and expensive problems of the project. CNW had three stations to be demolished, replaced by temporary stations and new stations built. CNS had two main stations, Winnetka and Indian Hill of which the latter had to be rebuilt. Of CNS's three other secondary stops two were replaced, but the one at Hubbard Woods was required to be expanded to a full-sized station. For all CNS stations in the cut section raised platforms were built at considerable additional expense to the project.

CNW's Winnetka and Hubbard Woods stations were provided with temporary wood buildings of a neat design, with temporary platforms and driveways. The permanent stations are of a design and construction harmonizing with other buildings in the Village. They are served by paved drives and station platforms. Public facilities to be considered included the public street system and utilities.



**WINNETKA GRADE SEPARATION PROJECT**  
**Contract XIV - 1**  
**Forming footing for Pedestrian**  
**Stairway C.N.S. & M.R.R. -- Elm**  
**St. Sta. Looking: S E**  
**Progress Photograph No. (18)**  
**Date: August 15th, 1940**

▲ Construction of the new Elm Street station is moving along on August 15, 1940.—*Courtesy of Winnetka Historical Society*



▲ On September 25, 1940, the Elm Street station is complete and appears to be in service. There is no evidence of trolley wire over what will become C&NW's permanent new main line tracks. This leads us to believe that North Shore's temporary use of the C&NW tracks was for approximately 10 months.—*Courtesy of Winnetka Historical Society*



▲ By September 26, 1940, the construction work on the North Shore is completed. We are looking north at the Harbor Street station. Harbor Street is the first level grade crossing marking the north end of the grade separation project. Considering that North Shore had no freight service on its Shore Line route south of Elm Place at the north end of downtown Highland Park, the gauntlet tracks are curious. Indian Hill was a low-level platform. All stations from Willow Road north to Harbor Street were built with high-level platforms and gauntlet tracks.—*Courtesy of Winnetka Historical Society*

There were 10 grade crossings in Winnetka and two in the run-out section in Glencoe, in addition to one pedestrian underpass at Willow Road. The pedestrian underpass in Kenilworth was unaffected. Of these crossings only the one at Ash Street was closed because of impossible approach grades. The two at Hubbard Place and Woodlawn Avenue, Glencoe, were replaced by pedestrian bridges. Harbor Street, Glencoe, was replaced as a depressed grade crossing, Winnetka

Avenue was replaced by a railway bridge and subway, and the other seven were replaced by highway bridges. In addition, two other pedestrian subways were included, one at Sunset Road, for use of school children, and one near Hill Road, primarily for station access. In summary 13 crossings were grade separated when previously only one crossing was grade separated.

Fortunately, the natural watershed divides roughly along the railroad. Operation of trains in a cut section

demands positive and fool-proof drainage. In this case it was obtained by construction of a sewer system along the joint right-of-way line into which the water is introduced through catch basins and inlets draining the subgrade

### Plan of Construction

CNS operated some 122 passenger trains per day over their line, but no freight service. CNW runs about 94 trains, including one freight and several fast through passenger trains, among them its streamliner the "400." Of the 12 street crossings mentioned earlier, as many as possible were closed for the construction period, but it was considered impossible to close Winnetka Avenue, Oak Street, Elm Street and Tower Road. Temporary bridges were located to not interfere with construction of permanent facilities. At Pine Street and Hubbard Place temporary pedestrian bridges were maintained.

The general plan of construction consisted of the following steps: 1) Construction of CNW temporary station facilities. 2) Construction of CNW temporary tracks along the west edge of their right-of-way, and transfer of operations to them. 3) Cut and fill new right-of-way for permanent CNW tracks. 4) Construction of permanent CNW tracks with temporary electrification and stations for CNS operations. 5) Transfer of CNS operations to these permanent C&NW tracks. 6) Construction of Wilson Street retaining wall and permanent Winnetka Avenue CNS bridge. 7) Construction of permanent CNS tracks, electrification and station platforms, and transfer of operations to these tracks. 8) Removal of temporary electrification and CNS platforms on CNW permanent right-of-way and construction of permanent CNW platforms. 9) Transfer of CNW operations to their own permanent tracks. 10) Removal of temporary CNW tracks. 11) Construction of permanent CNW station facilities and removal of temporary facilities.

The chief variation from this program was in the Indian Hill district, where construction of the two railroad bridges required more time than other work. This necessitated delay in shifting railroad operations back to permanent tracks. Temporary cutovers in the vicinity of Sunset Road, were necessary for some time after completion of the steps outlined

► Permanent North Shore tracks and electrification completed on left. Permanent North Western tracks being raised 6 inches and relined preliminary to transfer of North Western traffic and removal of temporary tracks on embankment at right.—*Courtesy of Northwestern University*

above in other sections. As each additional cut was made, the temporary bridges had to be extended across the new excavation, necessitating the closing of each crossing for a few days.

At Winnetka Avenue grade differences between temporary and permanent tracks made it impossible to keep the crossing open. A temporary underpass was built at Sunset Road, a block north, immediately adjoining the location of a permanent pedestrian underpass, so that a two-bent trestle could serve a double purpose. Incidental construction of drainage, paving, crib walls, utilities crossings and many other minor items were worked into the schedule where they fitted best.

### Construction Management and Design

Architecture of all structures was passed upon by the Village Plan Commission, to secure as harmonious a final effect as possible. Station buildings, bridges and the retaining walls were carefully studied. Engineering design of all railroad facilities was based upon standard railroad industry specifications wherever applicable, with one notable deviation.

Strict adherence to the standard vertical clearance requirement would have greatly increased cost because of a necessarily lower grade line. An application for a sub-standard clearance of 18'6" was filed with the ICC. Over considerable objection from the railroad brotherhoods, the application was approved on the grounds that a minimum freight business was carried on CNW and no freight was carried on CNS. Special lighting of bridge girders and low bridge warning devices were required by the ICC to be installed.

Each of the railroads stipulated that all work should be subject to their approval, and accordingly engineering representatives of each road were in close contact with the job, under the direction of each railroad's chief engineers. George Saint and Harold Mason represented CNW and CNS, respectively in this approval process. PWA also maintained a field staff of vary-



▲ We are looking north from Pine Street at the Pine Street crossovers. C&NW started using its new main lines in May 1941. The third North Shore track at the right is the El Dorado-Elm Siding. What was built at the left in 1941 as a team track is now used by Metra to reverse trains that only operate between Chicago and Winnetka. In the distance is the new streamlined 400 to the Twin Cities. The streamlined 400 was on display at C&NW's Chicago Passenger Terminal next to its heavyweight predecessor on September 18, 1939. The new equipment entered revenue service shortly thereafter.—*Courtesy of Northwestern University*

ing numbers and kept close track of all work to assure compliance with regulations set up by the government for qualifications for funding.

CNS service on their Shore Line Route through Winnetka was abandoned 70 years ago in July 1955. It is now the Green Bay Trail used for biking and walking path. There has been no freight service on CNW south of Lake Bluff in decades. Union Pacific acquired CNW in 1995. The only remaining rail service in Winnetka is Metra commuter trains.

Our thanks to the following people who made this article possible:

- Bishop George J. Rassas Jr. who grew up in Winnetka and encouraged the Managing Editor to undertake this research project.

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- James E. Lewnard, President of the C&NW Historical Society, for providing additional details on the C&NW trains that appear in the photograph captions.