



ILLINOIS COMMERCE COMMISSION

December 17, 2003

City of Des Plaines, an Illinois Municipal Corporation,
Petitioner,

v.

Union Pacific Railroad Company and Wisconsin Central Transportation
Corporation, and Illinois Department of Transportation,
Respondents.

T03-0102

In the matter of the Petition of the City of Des Plaines for an order of the Illinois
Commerce Commission to require the Respondents to pay their allocable share
of the costs of a major alteration of an above grade crossing in the City of Des
Plaines, Cook County, Illinois.

Mr. Paul N. Keller
Ancel, Glink, Diamond, Bush,
DiCianni & Rolek
140 S. Dearborn St., Ste. 600
Chicago, IL 60603

Dear Mr. Keller:

Receipt is acknowledged of the original and two (2) copies of the Petition filed December 16, 2003 in
the above matter.

**All future correspondence/pleadings should be filed with an original and two (2) copies and
addressed to: Mr. Dave Lazarides, Acting Director of Processing, Illinois Commerce Commission,
527 E. Capitol Avenue, Springfield, IL 62701 or you may file electronically through E-Docket if you
have an account. To apply for an account, please log on to www.icc.state.il.us and apply for an E-
docket account.**

Processing and Information Section

kl

- cc: Mr. Victor A. Modeer, IDOT
- Mr. Dave McKernan, UP
- Mr. Mack Shumate, UP
- Mr. Roy Farwell, UP
- CT Corporation System, UP
- Mr. Michael J. Barron, Jr., WC
- City of Des Plaines, Mayor/Clerk

COPY

**STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION**

CITY OF DES PLAINES, an Illinois)
Municipal Corporation,)
)
Petitioner,)

v.)

Docket No. T03-0102

UNION PACIFIC RAILROAD)
COMPANY and WISCONSIN CENTRAL)
TRANSPORTATION CORPORATION, and)
ILLINOIS DEPARTMENT OF)
TRANSPORTATION,)
)
Respondents.)

RECEIVED
DEC 16 2003
Illinois Commerce Commission
RAIL SAFETY SECTION

IN THE MATTER OF THE PETITION OF)
THE CITY OF DES PLAINES FOR AN)
ORDER OF THE ILLINOIS COMMERCE)
COMMISSION TO REQUIRE THE)
RESPONDENTS TO PAY THEIR)
ALLOCABLE SHARE OF THE COSTS)
OF A MAJOR ALTERATION OF AN)
ABOVE GRADE CROSSING IN THE)
CITY OF DES PLAINES, COOK)
COUNTY, ILLINOIS.)

PETITION

TO: ILLINOIS COMMERCE COMMISSION

The City of Des Plaines, Petitioner herein, by Ancel, Glink, Diamond, Bush, DiCianni & Rolek, P.C., one of its attorneys, respectfully states as follows:

1. Petitioner, City of Des Plaines ("City") is an Illinois municipal corporation, located in Cook County, Illinois.

2. Respondent Union Pacific Railroad Company ("UP"), is engaged in the transportation of persons and/or property by rail in the State of Illinois and as such is a rail

DOCKETED

carrier as defined in the Illinois Commercial Transportation Law.

3. Respondent Wisconsin Central Transportation Corporation ("WC"), is engaged in the transportation of persons and/or property by rail in the State of Illinois and as such is a rail carrier as defined in the Illinois Commercial Transportation Law. Collectively, WC and UP are herein referred to as the "Railroads."

4. Respondent Illinois Department of Transportation ("IDOT"), is a department of the State of Illinois, which exists by virtue of the laws of the State of Illinois, and is the owner of U.S. Highway Route 14, and is a necessary and proper party to these proceedings.

5. The Commission has jurisdiction over the parties and the subject matter of this proceeding by virtue of the Illinois Commercial Transportation Law, 625 ILCS 5/18c-7101, et seq.

6. U.S. Highway Route 14 (commonly known as "Northwest Highway") is a four-lane arterial highway running through the City of Des Plaines diagonally in a northwesterly direction. The section of Northwest Highway passing through the City of Des Plaines is also known in the City as Miner Street.

7. The Respondent Railroads operate rail traffic through the City of Des Plaines which intersects and crosses over Miner Street at approximately the 1000 Block of East Miner Street by means of a bridge overpass (the "Crossing"). Where Miner Street passes under the Crossing the highway bends to form an "S" curve and drops thirteen feet in elevation.

8. Chapter 625 ILCS 5/18c-7401(1) states as follows:

"General Requirements. Each rail carrier shall, consistent with rules, orders, and regulations of the Federal Railroad Administration, construct, maintain, and operate all of its equipment, track, and other property in this State in such a manner as to pose no undue risk to its employees or the person or property of any member of the public."

9. In a prior proceeding, Docket No. T01-0039, this Commission determined that, pursuant to 625 ILCS 5/18c-7401(1), respondent Railroads are required to repair and maintain

the existing bridge overpass in a safe condition. (Exhibit A hereto.)

10. Chapter 625 ILCS 5/18c-7401(3) states in pertinent part:

" Railroad Crossings.

* * *

The Commission shall also have the power, after a hearing, to require major alteration of or to abolish any crossing, heretofore or hereafter established, when in its opinion, the public safety requires such alteration or abolition. . ."

* * *

"The Commission shall also have power by its order to require the reconstruction, minor alteration, minor relocation or improvement of any crossing (including the necessary highway approaches thereto) of any railroad across any highway or public road, pedestrian bridge, or pedestrian subway, whether such crossing be at grade or by overhead structure or by subway, whenever the Commission finds after a hearing or without a hearing as otherwise provided in this paragraph that such reconstruction, alteration, relocation or improvement is necessary to preserve or promote the safety or convenience of the public or of the employees or passengers of such rail carrier or carriers. By its original order or supplemental orders in such case, the Commission may direct such reconstruction, alteration, relocation, or improvement to be made in such manner and upon such terms and conditions as may be reasonable and necessary and may apportion the cost of such reconstruction, alteration, relocation or improvement and the subsequent maintenance thereof, having regard to the benefits, if any, accruing to the railroad or any party in interest, between the rail carrier or carriers and public utilities affected, or between such carrier or carriers and public utilities and the State, county, municipality or other public authority in interest.

11. In June, 2000, consistent with its duty under the federal Hazard Elimination Program, 23 U.S.C. § 152, respondent Illinois Department of Transportation ("IDOT") published a "Draft Feasibility Study" for a highway improvement project to eliminate the "S" curve in Miner Street at the Crossing. (Exhibit B.) Eliminating the "S" curve will necessarily involve eliminating the existing bridge and construction of two new railroad bridges crossing over Route 14. In December, 2001, IDOT notified the City of Des Plaines that IDOT was prepared to move forward on this project, "subject to railroad cost participation." (Exhibit C.) The IDOT proposal

contemplates that respondent Railroads shall pay two-thirds (2/3) of the cost of constructing two new bridge overpasses over Miner Street.

12. In December, 2002, Union Pacific notified IDOT that it refused to participate in the two-thirds cost allocation, and “would only consider making a minimal contribution to the project.” (Exhibit D.)

13. On May 6, 2003, respondent Union Pacific sent a letter to Des Plaines Mayor Anthony Arredia, stating that “the railroads believe this [“elimination of the Route 14 “S” curve, including replacement of the Route 14 railroad bridge”] is a very worthwhile project, and we are willing to contribute financially to the project.” But Union Pacific then cited 23 CFR 646.204, et seq., as authority for its position that the Railroads are required to pay only “0%-5%” of the cost of the project. (Exhibit E.)

14. The "S" curve and drop in grade exist solely to enable Miner Street to pass under the Crossing and were ordered by this Commission to be so constructed in 1923, in Docket No. 12421. (Exhibit F.)

15. Straightening the "S" curve is necessary to eliminate the hazardous traffic conditions created by the Crossing. As indicated by the IDOT Feasibility Study, these hazardous conditions include:

- geometric deficiencies in the Route 14 alignment; the horizontal curvature is substandard for the design speed of the roadway.
- flooding which occurs under the bridge during low to moderate rainfall;
- there are no existing sidewalks or bicycle facilities, which limits pedestrian access to and from downtown Des Plaines, and creates hazardous conditions for pedestrians and bicyclists who do attempt to pass under the bridge.

16. According to IDOT, the increase in commuter and freight rail traffic will soon exceed the capacity of the rail intersection at the Crossing, resulting in significant delays. The IDOT Feasibility Study notes that eliminating the existing Crossing will enable the Railroads to redesign their track alignment to improve the capacity of the intersection and shorten delays.

Moreover, while this petition is not directed at the condition of the existing bridge per se, any increase in rail traffic over the existing bridge is likely to increase the deterioration of the bridge and its unsafe condition, addressed by this Commission in Docket No. TO 1-0039.

17. It is necessary to preserve and promote the safety and convenience of the public for the Commission to require, in a manner not inconsistent with the regulations of the Federal Railroad Administration, the reconstruction and relocation of the Crossing, including the necessary highway approaches thereto and the relocation of the overhead bridges by which the Railroads intersect Miner Street.

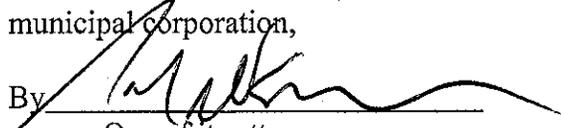
18. It is fair and reasonable that the Respondent Railroads should bear the major cost of reconstructing and relocating the overhead bridges by which the Railroads intersect Miner Street in a manner that is consistent with IDOT's proposed Highway Improvement Program plans for the purpose of promoting and preserving the public's safety and convenience.

WHEREFORE, Petitioner prays that this Commission set a date for Hearing on this Petition for the purpose of:

- (a) Requiring Respondent Railroads herein to reconstruct and relocate the overhead bridges by which such Railroads intersect Miner Street in a manner that is consistent with IDOT's proposed Highway Improvement Program plans; and
- (b) Requiring Respondent Railroads herein to bear the major responsibility for the costs of such reconstruction and relocation.

Respectfully submitted,

CITY OF DES PLAINES, an Illinois
municipal corporation,

By 

One of its attorneys

Paul N. Keller
Adam B. Simon
ANCEL, GLINK, DIAMOND, BUSH, DiCIANNI & ROLEK, P.C.
140 South Dearborn Street, Sixth Floor
Chicago, Illinois 60603
(312) 782-7606

STATE OF ILLINOIS)
)
COUNTY OF COOK)

VERIFICATION

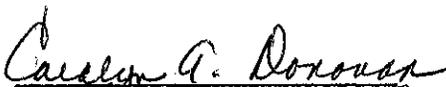
I, Paul N. Keller, being first duly sworn upon oath depose and say that I am an attorney for City of Des Plaines, an Illinois municipal corporation; that I am authorized to make this Verification on its behalf; that I have read the above and foregoing Petition of the City of Des Plaines by me subscribed and know the contents thereof; and that said contents are true and correct to the best of my knowledge, information and belief.



Paul N. Keller

Attorney for
CITY OF DES PLAINES

Subscribed and Sworn
to before me this
December 12, 2003



Notary Public
OFFICIAL SEAL
CAROLYN A. DONOVAN
Notary Public, State of Illinois
My Commission Expires Apr. 18, 2004



ILLINOIS COMMERCE COMMISSION

February 25, 2003

City of Des Plaines, an Illinois Municipal Corporation,
Petitioner,

v.

Union Pacific Railroad Company, Wisconsin Central Transportation
Corporation, and Illinois Department of Transportation,
Respondents,

T01-0039

Petition of the City of Des Plaines for an order of the Illinois Commerce
Commission to require installation of safety devices at a railroad bridge
overpass in the City of Des Plaines, Cook County, Illinois.

TO ALL PARTIES OF RECORD:

Dear Sir/Madam:

Enclosed please find a copy of the Order entered by the Commission in the above-entitled matter on February 20, 2003.

Please note that this Order contains provisions for penalties for failure to complete the work by the ordered completion date. Requests for extensions of time must be filed with the Director of Processing and Information of the Illinois Commerce Commission at the address shown below, no later than 14 days prior to the ordered completion date.

Processing and Information Section

ss

June Tate, Administrative Law Judge
Robert Berry/Henry Humphries, Rail Safety Staff

FEB 25 2003

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

City of Des Plaines, an Illinois Municipal Corporation,
Petitioner,

v.

Union Pacific Railroad Company, Wisconsin Central Transportation
Corporation, and Illinois Department of Transportation,
Respondents,

T01-0039

Petition of the City of Des Plaines for an order of the Illinois Commerce
Commission to require installation of safety devices at a railroad bridge
overpass in the City of Des Plaines, Cook County, Illinois.

ORDER

By the Commission:

On May 23, 2001, the City of Des Plaines, Cook County, Illinois ("Petitioner"), filed the above-captioned verified petition with the Illinois Commerce Commission ("Commission") naming as Respondents Union Pacific Railroad Company ("UPRR"), Wisconsin Central Ltd. ("WCL"), and the Illinois Department of Transportation ("IDOT").

On June 25, 2001, Petitioner filed a Motion for Pre-Hearing Conference to simplify and clarify the issues raised in its complaint. A pre-hearing conference was held on July 2, 2001. Petitioner, UPRR, and WCL were represented by counsel. Also entering appearances were Henry Humphries, Robert Berry, Brian Vercruyse, and Stan Malewski, members of the Commission Transportation Division, Railroad Section. Special Assistant Attorney General ("SAAG") Diana G. Collins also appeared for the Commission.

Pursuant to proper notice, the matter came on for hearing on August 15, 2001, August 29, September 11, October 2, December 5 and 18, 2002, and January 14, 2003. On this last date, the record was marked "Heard and Taken."

At the hearing held August 15, 2001, Keith W. Eich, manager of bridge maintenance for UPRR testified that repairs would probably be completed within thirty days. The matter was continued from time to time on the advice that repairs were continuing and nearly complete. At the hearing on August 29, 2002, Petitioner reported that the repair job had begun to fall apart toward the end of July 2002 resulting in repair materials falling to the pavement. In addition, lathing, brake shoes, and unidentified pieces of metal continued to fall or be thrown to the pavement. Mr. Eich reported that UPRR was now using double

- (6) Chapter 625 ILCS 5/18c-7401(1) states as follows: "General Requirements. Each rail carrier shall, consistent with rules, orders, and regulations of the Federal Railroad Administration, construct, maintain, and operate all of its equipment, track, and other property in this State in such a manner as to pose no undue risk to its employees or the person or property of any member of the public;"
- (7) U.S. Highway Route 14, a/k/a Northwest Highway and Miner Street, is a four lane arterial highway running through the City of Des Plaines diagonally in a northwesterly direction;
- (8) the Respondent railroads operate rail traffic through the City of Des Plaines, which cross over Miner Street at approximately the 1000 block of East Miner Street by means of a bridge overpass;
- (9) for the past two years, debris, including but not limited to railroad spikes, brake shoes, lathing, and unidentified pieces of metal have fallen from the bridge to the pavement onto vehicular traffic on Miner Street;
- (10) some items have struck vehicles and caused damage and some vehicles have narrowly escaped from falling debris; public safety requires that debris be prevented from falling to the pavement; it is undisputed that the size and type of debris falling from the bridge overpass may result in serious injury or death to drivers and passengers should the debris strike a vehicle;
- (11) the Respondent railroads are required and directed to maintain their equipment in such a manner as to pose no undue risk to the health, safety, and welfare of drivers and passengers traveling under the subject bridge overpass;
- (12) it is fair and reasonable that the Respondent railroads should bear the entire cost of repairing the bridge overpass in such a way that debris does not fall to the pavement thereby endangering vehicles traveling under the bridge overpass;
- (13) it is fair and reasonable that the Respondent railroads maintain the bridge overpass consistent with these findings by inspecting the subject bridge overpass twice weekly within a distance of one hundred feet (100') on either side of the structure, as long as the bridge overpass is in use; in addition, the Respondent railroads should police their rights-of-way once each month so that there is no debris on the bridge which can be thrown to the pavement;

IT IS FURTHER ORDERED that any person making a Request for Extension of Time up to thirty (30) days to complete a project ordered by the Commission must file a request with the Director of Processing no later than fourteen (14) days in advance of the scheduled deadline. An Administrative Law Judge will consider and decide the request.

IT IS FURTHER ORDERED that Requests for Extension of Time and Petitions for Supplemental Orders must include the reason(s) the additional time is needed to complete the work and the time within which the project will be completed. Prior to submitting a Request for Extension or a Petition for Supplemental Order, the person must notify the Commission's Rail Safety Program Administrator that it is unable to complete the project within the ordered timeframe.

IT IS FURTHER ORDERED that the Administrative Law Judge reserves the right to deny Requests for Extension of Time and Petitions for Supplemental Orders if the reason(s) supporting the request is insufficient or where it appears the person has not made a good faith effort to complete the project within the allotted time. Failure of the Administrative Law Judge to act on a pleading prior to the deadline means the originally ordered completion date remains in effect.

IT IS FURTHER ORDERED that the Commission shall retain jurisdiction for the purpose of issuing any supplemental order or orders as it may deem necessary.

IT IS FURTHER ORDERED that in accordance with Chapter 625 ILCS 5/18c-2201 and 5/18c-2206 of the Illinois Commercial Transportation Law, this is a final order subject to the Administrative Review Law.

By Order of the Commission this 20th day of February 2003.

Kevin H. Wright

Chairman

JUDGE	<i>JB</i>
SECTION CHIEF	
ORDERS SUPERVISOR	<i>[Signature]</i>

"DRAFT"
FEASIBILITY STUDY

*US Route 14 at the
Union Pacific and
Wisconsin Central
Railroad Crossings*

July 2000

Prepared for: City of Des Plaines,
Illinois Department of
Transportation,
Metra,
Wisconsin Central, Ltd., and
Union Pacific Railroad

Prepared by:

TRANSYSTEMS
CORPORATION



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I. PROJECT INTRODUCTION

A. BACKGROUND

The City of Des Plaines, in conjunction with the Illinois Department of Transportation, Metra, Wisconsin Central Ltd., and Union Pacific Railroad, have initiated this study to determine the feasibility of reconstructing the existing wooden bridge carrying the intersection of the Union Pacific-Milwaukee and Wisconsin Central Railroads over US Route 14, also known as Northwest Highway. The study investigated the possibility of reconstructing US Route 14 to provide a straighter roadway as well as removing the railroad intersection between the Wisconsin Central and Union Pacific Railroads to provide future capacity improvements.

The existing wooden railroad bridge was constructed in 1930 as a temporary bridge until the full improvement and straightening of US Route 14 could be accomplished. The highway realignment and permanent bridge structures were never constructed. The project was studied in the mid-1970's by the Illinois Department of Transportation. Due to other priorities at the time, the project was never programmed for construction. Currently, the bridge requires constant maintenance and so reconstruction of the bridge is timely.

B. PURPOSE AND NEED

The primary purpose of the US Route 14 improvement is to reconstruct the existing wooden railroad bridge that carries the intersection of the Union Pacific-Milwaukee and Wisconsin Central Railroads over US Route 14. The purpose of this study is to determine the feasibility of constructing new bridge structures that would allow the straightening of US Route 14. This would improve the existing roadway design such that it may safely and efficiently accommodate the existing and projected traffic volumes. The selected alternative for the US Route 14 improvement should also consider future improvements to the three (3) existing crossing railroad lines: Wisconsin Central (WC), Union Pacific-Northwest Subdivision (UPNW), and Union Pacific-Milwaukee Subdivision (UPM). The study considered the feasibility and benefit of providing at-grade double tracking of the Wisconsin Central or a future overpass or underpass between rail lines.

Geometric deficiencies in the US Route 14 alignment to the east and west of the existing bridge structure indicate the need for improvements to the roadway alignment. The horizontal curvature is substandard for the design speed of the roadway. The wooden bridge was constructed 70 years ago as a temporary structure. The physical condition of the bridge requires constant maintenance and it is in need of replacement. Debris has fallen from the bridge and passing rail cars. Flooding occurs under the bridge during low to moderate rainfall. There are no existing sidewalks or bicycle facilities, which limits pedestrian access to and from downtown Des Plaines.

Metra initiated commuter rail service along the Wisconsin Central line (North Central Service) a few years ago. Currently, 10 commuter trains per day utilize this rail line. It is projected that the number of commuter trains will increase to 52 per day and the number of freight trains will double to 65 per day by 2020. This increase in commuter and freight traffic will exceed the capacity of the intersection with the Union Pacific lines resulting in significant delays.

C. SCOPE OF STUDY

The objective of the study was two-fold. First, the study evaluated feasible design alternates for the replacement of the existing wooden bridge and straightening of the US Route 14 alignment. The design alternate analysis addressed conceptual roadway geometrics, right-of-way acquisition, impacts to adjacent properties, drainage, and construction costs. Second, the study evaluated feasible design alternates for increasing the traffic capacity of the crossing railroads. The design alternate analysis addressed the constructability, maintenance of traffic, impacts to adjacent properties, drainage, and construction costs.

The study was conducted in four steps. The first step identified and evaluated the existing conditions and established the purpose and need for the project. The second step coordinated the project with the participating agencies to identify known problem areas and future needs. The third step involved the development and evaluation of alternates. The final step is to draw conclusions from the study and make recommendations for additional studies, design, and eventual implementation.

II. LOCATION AND EXISTING CONDITIONS

A. LOCATION

US Route 14, also known as Northwest Highway, is located in the northwest suburban community of Des Plaines, Cook County, Illinois (See Exhibit 1). The study limits along US Route 14 are from west of the Pace Facility entrance to Western Avenue, a distance of approximately 2,950 feet. The study limits along the Wisconsin Central Railroad are from south of Dempster/Thacker Street to north of Rand Road, a distance of approximately 8,765 feet. This section of the Wisconsin Central Railroad crosses Prairie Avenue, Woodlawn Avenue, Union Pacific-Northwest line, Union Pacific-Milwaukee line, Seegers Road, and Golf Road.

B. DESCRIPTION OF EXISTING FACILITIES

US Route 14

US Route 14 is a major arterial roadway servicing traffic in the northwestern section of the Chicago Metropolitan Area. US Route 14 has two, 12-foot lanes each direction approaching the bridge from the west with a 4-foot mountable median. Under the bridge the lane width is reduced to two, 10-foot lanes in each direction with a concrete Jersey-type barrier wall median. The roadway widens to the east of the bridge to two, 11-foot lanes in each direction.

A concrete Jersey type barrier wall is located down the centerline under the bridge, with 3 to 5 feet high retaining walls on the outside edges of pavement. Existing superelevation of the pavement is inadequate. The existing right-of-way (ROW) width ranges from 50 feet southeast of the bridge to 130 feet at the bridge, and narrows back to 66 feet northwest of the bridge. There are neither sidewalks nor bicycle lanes along US Route 14 (See Exhibit 2).

US Route 14 parallels the UP Northwest Line for most of its length, except where it crosses under both the WC and the UPM Lines. The "S" curve of US Route 14 under the rail crossing is comprised of four horizontal curves. The radii of these curves vary from 394 feet to 1,032 feet (See Exhibit 3). The design speed for the lowest speed curve is 30 miles per hour, which is substandard for the roadway that otherwise has a 45 mile per hour design speed. The roadway alignment shifts 337 feet north to pass beneath the bridge, then returns back to its original course within a length of 1,800 feet.

US Route 14 provides access to and from downtown Des Plaines to other suburban municipalities and the City of Chicago. It also provides access to O'Hare International Airport. US Route 14 currently has an average daily traffic (ADT) of 20,000 vehicles (See Exhibit 4).

The land use adjacent to US Route 14 consists primarily of light industrial land uses. Little Fuse, Macco, and the Pace maintenance facility are located west of the bridge and a photographing commercial facility is located east of the bridge. The Union Pacific Railroad operates a small maintenance facility in the triangular area just south of US Route 14 formed by the three crossing railroads.

Wisconsin Central Railroad

The Wisconsin Central Railroad is a one-track railroad traversing in generally a north-south direction through the project limits. The right-of-way width varies from 190 feet near Dempster Street, 66 feet from south of Prairie Avenue to the UPNW line, 100 feet from UPNW line to the Seegers Road, and 50 feet north of Seegers Road. Ditch drainage is typical along both sides of the line. This line services Metra's North Central service and accommodates 10 commuter trains and approximately 30 freight trains per day.

There are at-grade crossings with the following cross streets within the project limits. These include Dempster/Thacker Street, Prairie Avenue, Woodlawn Avenue, Seegers Road, Golf Road, and Rand Road. In addition, the railroad also crosses the Union Pacific-Milwaukee line on top of the existing wooden bridge and crosses the Union Pacific-Northwest line approximately 500 feet to the south.

The Wisconsin Central Railroad crosses Weller Creek to the north of US Route 14 between Seegers Road and Golf Road. A Commonwealth Edison substation is located along the east side of the Wisconsin Central right-of-way north of US Route 14. Large Commonwealth Edison distribution lattice towers are located to the west and east of the Wisconsin Central Railroad south and north of US Route 14, respectively.

Surrounding land use consists of single family residential properties and light industrial. South of US Route 14, the Wisconsin Central Railroad is bordered by First Avenue on the west, which provides access to a residential neighborhood and by approximately 50 homes on the east. North of US Route 14, there is commercial, industrial, and two residential subdivisions on the west and ComEd transmission towers on the east. The business facilities along this segment of the track are Pace maintenance facility, Filtran factory, Bishop Plumbing Inc., and an office complex.

Union Pacific Railroads

There are two Union Pacific Railroads in the project area. The first is the Northwest line that traverses between downtown Chicago and Harvard, and the second is the Milwaukee line that traverses between O'Hare Airport area and Milwaukee, and beyond.

The Northwest line is a three track facility traversing generally in a northwest to southeast direction through the project limits. The right-of-way width is typically 100 feet with ditch drainage along both sides. This line services Metra's Northwest service and accommodates 53 commuter trains and approximately 5 freight trains per day. It is a major commuter carrier between the northwest suburbs and the City of Chicago. The land use along the Northwest line is light industrial west of the US Route 14/Wisconsin Central underpass. To the east, the land use switches to single and multi-family residential.

There are no at-grade roadway crossings with the Northwest line within the project limits. There are two at-grade railroad crossings. The first is with the UPM line and the second is with the WC line.

The Milwaukee line is a two track facility traversing generally in a northeast to southwest direction through the project limits. The right-of-way width is typically 100 feet with ditch drainage along both sides. This line services approximately 20 freight trains per day. It is a major freight route between the western states and northern Illinois and Wisconsin. The land use is mostly light industrial within the project limits.

The Union Pacific controls all traffic through this interlocking of three railroad lines via Deval Tower control. The tower is located at the northwest corner of the Union Pacific Northern line and Wisconsin Central line intersection.

Existing Bridge

The existing structure was constructed in 1930. The original construction was ordered by the Illinois Commerce Commission (ICC) under Docket No. 12481, dated April 25, 1922, and a supplemental order dated January 23, 1924. The bridge is currently owned and maintained by the Union Pacific. The Wisconsin Central Railroad contributes to the cost of maintaining the bridge. The vertical clearance between US Route 14 and the bottom of the bridge is 13 feet, 10 inches. Vertical clearance improvements will be required.

C. EXISTING AND PROJECTED TRAFFIC DATA

The existing average daily traffic volume along US Route 14 is 20,000. Traffic counts were conducted in January 2000. The projected traffic volume is 24,000 vehicles per day. This traffic volume was reviewed and approved by the Chicago Area Transportation Study (CATS). A copy of their concurrence letter is included in Appendix B.

The railroad companies and Metra provided railroad traffic counts and projections. The Wisconsin Central currently carries 10 commuter and 30 freight trains per day. These volumes are expected to increase to 52 commuter and 65 freight trains per day by 2020. The Union Pacific-Northwest line carries 63 commuter and 5 freight trains per day, and it is expected to increase to 73 commuter and 7 freight trains per day. The Union Pacific-Milwaukee line carries no commuter and 20 freight trains per day. There is no commuter traffic anticipated by 2020 and the freight traffic is expected to increase to 28 trains per day (See Exhibit 4).

The current congestion at the intersection of these railroads will continue to worsen as the volume of commuter and freight traffic increases. Trains along the Wisconsin Central may be forced to queue south and north of the Union Pacific lines waiting for clearance to cross through the interlocking, blocking residential at-grade street crossings during the delay.

D. ACCIDENT HISTORY

Accident information along US Route 14 was obtained from the Illinois Department of Transportation for 1996 and 1997. Information for 1998 was provided by the City of Des Plaines, but details of the accident types were not available. A total of 104 accidents occurred within the project limits during a three-year study period from 1996 through 1998 (See Exhibit 5). The majority of the accidents were fixed object (44.3 percent) and rear end (31.6 percent).

Fixed objects collisions are classified as accidents where vehicles leave the existing roadway and strike either the wooden bridge, adjacent utility pole, or the barrier median. These accident types are usually caused by deficiency in roadway geometrics. Rear end collisions occur when the vehicle from behind hits the vehicle traveling in front of them. The first vehicle may have slowed to negotiate the tighter curves, turn at a driveway, or avoid water on the pavement under the bridge. More than half of the accidents occurred on wet pavement (59 percent).

An accident analysis was conducted for the sidestreets near the Wisconsin Central crossings, including Thacker-Dempster Street, Prairie Avenue, Woodlawn Avenue, Seeger Road, Golf Road, and Rand Road. A summary of accident data from 1996 through 1998 is shown in Exhibit 5-2. A total of 24 accidents occurred in the project limits during the study. The type of accidents varied from sideswipe to hit fix object to rear-end. 15 accidents were confirmed railroad related (40%) and they are occurred on Thacker/Dempster Street, Golf Road, and Rand Road. There are no direct train and car collisions along the WC within the study area. All 15 reported accidents were rear-end type of collision between vehicle waiting for train crossing and following vehicle can not stop on time. With the projected 8% to 20% increases in vehicle traffic crossing the railroad throughout the project limits, the railroad-related accidents are expected to increase.

E. DRAINAGE AND UTILITES

Weller Creek crosses the Wisconsin Central Railroad approximately 1,500 feet north US Route 14. The low point of the existing underpass is below the Weller Creek 100-year flood elevation and the pavement at this location has been identified by Illinois Department of Transportation (IDOT) as having a pavement flooding problem and is on the Pavement Flooding Prioritization Listing.

Pump Station No. 8 is located at the northwest corner of the Union Pacific-Milwaukee and Wisconsin Central intersection. It handles the area that drains to the underpass. The area covered by the pump is approximately 1,900 feet and 1,450 feet of US Route 14 west and east of the railroad structure, respectively. In general, the entire area tributary to the pump station sheet flows to the roadway sag where it is drained through various catch basins and storm sewers to the pump station. The storm water is discharged, via Pump Station No. 8, north along the WC railroad to Weller Creek. The pump station is nearing the end of its design life and cannot accommodate the amount of storm water during the moderate rainfall. It needs to be replaced.

The following private utility companies have indicated they have facilities within the project location. Copies of correspondence are included in Appendix B.

Utility Company	Utility Size	General Location
Commonwealth Edison (Underground)	1. 4-inches F	1. Approx. 4200' northwest of UPNW and UPM tracks intersection; across the highway.
	2. 5-inches F	2. North of UPNW and UPM tracks intersection; across the highway.
	3. 5-inches F	3. Along the west side of Golf Rd; across the track.
	4. 5-inches F	4. Southside of track; across Seegers Rd, Golf Rd, and Rand Rd.
	5. 5-inches SP	5. West side of Seegers Rd, across the track.
	6. 6-inches SP	6. East side, along the track; across Thacker/Dempster St, Prairie Ave, and UPNW.
	7. 5-inches F	7. North of WC and UPM tracks intersection; across the WC track.
Commonwealth Edison (Overhead)	1. Transmission Towers	1. Northwest of UPM track, WC track, and US Rte 14 intersection.
	2. 6-AL	2. Along northeast side of highway; northwest side of "S" curve.
	3. 110-AL	3. Southwest side of highway; north of US Rte 14 underpassing UPM tracks.
	4. Transmission Towers	4. Southside of track; along the track.
	5. Transmission Line	5. North WC and UPM tracks intersection, cross the WC track.
	6. Transmission Line	6. North of Rand Rd, crossed the track.
Ameritech Phone Company	1. Copper Cables and Fiber Optic	1. North side; 25 to 26 ft. from center line of US Route 14.
North Shore Gas Company	1. 28-inches high pressure gas line	1. East end of track; 14 to 16 inches from east edge of track toward center line of track.
Nicor Gas Company	1. 30-inches high pressure gas line	1. Cross US Route 14 on the northwest corner of WC and UPM Lines.
	2. 30-inches high pressure gas line	2. Cross the track at north of tracks intersection.

The major utility conflict will be with Commonwealth Edison (ComEd) transmission lattice towers between US Route 14 and the UPNW Line. There are two crossings of the ComEd transmission lines and the Wisconsin Central Railroad. North of the Union Pacific-Milwaukee crossing, there is 33 feet of clearance between the sag in the power lines and the Wisconsin Central Railroad tracks. North of Rand Road, there is 67 feet of clearance between the sag in the power lines and the railroad tracks. The relocation of the towers in the project limits would require further coordination with ComEd.

F. ENVIRONMENTAL AREAS

The National Wetlands Inventory Map shows no wetlands would be affected by the improvement. However, a previous study commissioned by Metra identified wetlands in

the middle of the triangle formed by the three crossing railroads. Any proposed improvements involving an underpass will require a minor transverse encroachment. There are no Forest Preserve Lands adjacent to US Route 14 within the study area.

The Pace maintenance facility may have underground storage tanks and use other petroleum-based products that could have a potential for soil contamination. Further investigations would be required if right-of-way acquisition were required from the Pace facility.

The Maaco autobody repair shop may have chemicals and solvents stored on site. Further investigation would be required in Phase 1.

The Lion Woods Forest Preserve borders the Wisconsin Central Railroad right-of-way north of Golf Road. The acquisition of right-of-way in this area to lengthen the existing horizontal curvature and to construct a grade separation over Golf Road and Rand Road will most likely require property from the Forest Preserve District of Cook County. Such land acquisition may require a Section 4(f) statement.

III. ALTERNATE DESIGN STUDIES

A. US ROUTE 14

The study of the proposed realignment of US Route 14 resulted in five (5) proposed alternates and an analysis of the "No-Build" alternate. Detailed design studies were conducted for four (4) alignments utilizing an underpass (Alternatives 1 through 4), an overpass (Alternative 5), and no-build (i.e. no realignment of US Route 14, only reconstruct the existing bridge at the existing location, which is Alternative 6).

The alternates were designed to meet Illinois Department of Transportation criteria. All of the build alternates considered the same proposed typical section. Based on the projected traffic growth in the project vicinity, the proposed typical cross section consists of two 14-foot outside land for bicycle provisions and two 12-foot inside lane, separated by an 18-foot wide median (See Exhibit 6).

- **Alternate 1 – Underpass, Furthest Shift North**

This design alternate shifts the US Route 14 alignment as far north of the Union Pacific-Northwest Line as possible without impacting the larger of the two ComEd transmission towers. This alternative has the least impact to the Union Pacific maintenance facility in the triangular area formed by the three intersecting railroad lines. However, the Union Pacific Railroad has indicated that this maintenance area is expendable.

In order to minimize the impact to the existing railroad maintenance facility, two sharp reverse curves in the alignment were necessary. The radius of the reverse curves range from 570 feet to 2200 feet. The design speed varies from 70 miles per

hour (mph) to 40 mph within 1,100 feet of traveling distance. The posted speed limit would be 35 mph, which is less than the posted speed limits to the east and west along US Route 14. The restricted speed limit would not satisfy the purpose and need of the project. A conceptual roadway plan for Alternate 1 is shown in Exhibit 7.

One ComEd tower, located near the northeast corner of the Maaco body shop, would need to be relocated for this alternative. This alternative was withdrawn from further consideration due to the undesirable roadway geometrics.

- **Alternate 2 – Underpass, Furthest Shift South, Minimal Walls**

This design alternate shifts US Route 14 as far south as possible while minimizing retaining wall along the UPNW line. The radii of the realigned roadway range from 2,000 feet to 3,000 feet, which is above the 45 mph design speed. This alternate provides better roadway geometrics compared to Alternate 1. The skew of Alternate 2 results in slightly longer bridges compared to Alternate 1. A separate bridge with a center pier would be needed for roadway passing under the connector track between the UPNW and UPM lines. A conceptual roadway plan for Alternate 2 is shown in Exhibit 8, and a summary of cost is shown in Exhibit 20.

The same ComEd tower identified in the Alternate 1 would need to be relocated. The roadway backslopes within the triangle area formed by the three railroad lines would eliminate the maintenance yard for the Union Pacific Railroad. Officials from the UP indicate that this impact would not be a significant issue and state the taking of this property should be acceptable.

- **Alternate 3 – Commonwealth Edison Avoidance**

This alternate avoids the relocation of both ComEd transmission towers. In order to achieve this objective, a 740-foot radius curve is required at the west project limits. The roadway geometrics are not as desirable compared to Alternate 2. This alternate requires right-of-way from the vacant parcel north of US Route 14, but allows the Maaco building to remain between US Route 14 and the UPNW line. A conceptual roadway plan for Alternate 3 is shown in Exhibit 9, and a summary of cost is shown in Exhibit 20.

Based on the roadway geometrics and discussions at the technical coordination meetings, this alternate is not as desirable as Alternate 2.

- **Alternate 4 – Underpass, Straight Alignment**

This design alternate maintains US Route 14 on a straight, with a slight shift to avoid impacting the Deval Tower. This alternative has the most desirable roadway geometrics of the four alternatives. However, high retaining walls between US Route 14 and the UPNW Line would be required along most of the project length. This alternate is the most expensive of the four underpass alternates due to the retaining wall cost. A conceptual roadway plan for Alternate 4 is shown in Exhibit 10. Because of its low cost effectiveness, this alternate was not carried forward for further analysis.

- **Alternate 5 – Overpass, Straight Alignment**

This design alternate elevates US Route 14 over the UPM line. To accommodate a potential future Wisconsin Central (WC) Railroad overpass, the alignment of US Route 14 would have to be shifted as far south as possible. A six percent (6%) roadway grade would be required to provide the proper vertical clearances while minimizing the WC bridge height. The need for Pump Station at the site would not be necessary.

This alternative would greatly reduce the disruption of rail traffic during construction since the bridges could be built outside the influence of any rail traffic. However, the ComEd high-tension power lines would have to be raised to go over US Route 14 and traffic noise may exceed acceptable levels and require mitigation. The vertical grades on this alternate are undesirable resulting in this alternate being dropped from further study.

- **Alternate 6 – No Build Roadway, Rebuild Existing Bridge Only**

This design alternate considered the reconstruction of the existing bridge at the existing location only. US Route 14 would remain on its existing alignment. US Route 14 would be lowered to improve the vertical clearance and the pump station needs replacement. The lane widths could be widened to 12 feet each. However, the inadequate horizontal curvature would remain. The tight horizontal curvature would still result in substandard conditions and not alleviate the accident situation.

Reconstructing the structure at the existing location would be difficult. The UPM and WC lines cross on the existing bridge. Closure of US Route 14 would be required for at least part, if not all, of the construction activity. Temporary runarounds for the railroads would require closure of the roadway or temporary structures. This alternative was dropped from further consideration.

B. WISCONSIN CENTRAL

The second part of the study was to investigate the feasibility of constructing a grade separation for the Wisconsin Central at the Union Pacific-Northwest and Milwaukee lines. This study resulted in three (3) proposed alternates and an analysis of the "No-Build" alternate. Detailed design studies were conducted for each, which consisted of an taking the Wisconsin Central over the Union Pacific lines (Alternate 1), taking the Wisconsin Central under the Union Pacific lines (Alternate 2), double tracking the Wisconsin Central at-grade (Alternate 3), and No-Build (Alternate 4).

Due to the large projected volume of vehicular traffic on Golf Road and Rand Road (32,000 and 36,000 vehicles per day, respectively), the north limit of the Wisconsin Central was extended to include these two roadways. This would minimize traffic delay and congestion as well as eliminate the train/vehicle accident potential.

Preliminary evaluation of the corridor identified other alternates. These included raising the Union Pacific lines or partially raising and lowering all railroad lines. The Union Pacific-Northwest line consists of three sets of tracks and carries over 60 commuter trains per day. It connects directly to the Union Pacific-Milwaukee line and has spur tracks to adjacent businesses. Any change in grade for the Union Pacific lines would be extensive and not feasible to construct. Therefore, these alternates were dropped from further consideration.

Another alternate identified was the lowering or raising of cross streets and leaves the railroad at-grade. The vertical clearance required at each roadway underpass would be 14-feet, 6-inches. The beginning of each roadway reconstruction would start approximately 725 feet either direction of the Wisconsin Central Railroad. This would eliminate access to approximately 36 properties along each street, resulting in the relocation of the residential property owner. In addition, pumping stations would be required at each location in order to drain storm water from the underpass. If an overpass were constructed, the vertical clearance would be 23-feet. Impacts to adjacent properties would be worse than the underpass scenario. These alternates were not considered feasible and were dropped from further evaluation.

The alternates worthy of further evaluation were designed to meet Wisconsin Central, Ltd. and Metra criteria. All of the build alternates considered the same proposed typical section. Based on the projected traffic growth, the proposed typical cross section consists of double tracking with a minimum of 14 feet separation between tracks. Where open slopes are to be utilized instead of retaining walls, they would be at a maximum ratio of two-foot (2') horizontal to one-foot (1') vertical. A maximum vertical grade of 1.1 percent and maximum horizontal curves of 2 degrees was used in the design analysis.

- **Alternate 1 – Elevated Track**

This design alternate provides double tracks at an elevated grade. This alternate eliminates both of the Wisconsin Central intersections with the Union Pacific Railroad as well as most of local street crossings. These streets include Prairie Avenue, Woodlawn Avenue, Seegers Road, Golf Road, and Rand Road. Existing and proposed typical sections for these grade crossings are shown in Exhibits 11 through 15. The following impacts to the side streets have been evaluated.

Dempster/Thacker Street

- Raises the street elevation by 3 to 5 feet.
- Requires existing garage at southwest corner to be raised or relocated.
- Requires retaining walls along Dempster Street to accommodate the new surface grade.

Prairie Avenue

- Lowers the street elevation, and provides 10.5 feet of vertical clearance at the new railroad underpass.

Woodlawn Avenue

- Flattens the existing hump at the railroad crossing.

Seegers Road

- Requires eastern driveway at Filtran facility to be closed.
- Closes railroad access road along west side of WC.
- Acquires a portion of Pace maintenance facility's parking lot.

Golf Road

- Requires right-of-way from a residential area and forest preserve property.
- Requires parking lot acquisition at Bishop Plumbing, Inc.

Rand Road

- Requires right-of-way from a commercial office complex area and forest preserve property.

Approximately 3,700 feet of retaining walls are required from south of Prairie Avenue to the UPNW line to avoid impacts to the adjacent single family homes on the east and First Avenue on the west. Embankments can be utilized north of the UPM line. A conceptual plan and typical section for Alternate 1 are shown in Exhibits 16 and 17, respectively. A summary of cost is shown in Exhibit 21.

Two ComEd power lines that cross the WC north of the UPM line and north of Rand Road Crossing would have to be relocated or rerouted.

• **Alternate 2 – Depressed Track**

This design alternate provides double tracks at a depressed grade (Tunnel). This alternate would require approximately 12,840 feet of retaining wall, two tunnels, and five (5) bridges. One tunnel would underpass the UP Lines. The other tunnel would cross under Weller Creek. Open slopes would be provided on the north end of the Wisconsin Central where the right-of-way width is sufficient and/or available. A conceptual plan and typical section for Alternate 2 are shown in Exhibits 18 and 19, respectively. A summary of cost is shown in Exhibit 21.

Local street crossings would be provided by a bridge structure over the tracks. A minimum vertical clearance of 23 feet would be required. At the south end of the project, the following impacts to the side streets have been evaluated due to the railroad coming back up to meet existing grade.

Dempster/Thacker Street

- Lowers the street elevation by 1 to 2 feet.
- Requires existing garage at southwest corner to be lower or relocated.
- Requires retaining walls along Dempster Street to accommodate the new surface grade.

Prairie Avenue

- Raises the street elevation by approximately 22 feet.
- Require 5,000 feet of retaining wall to separate the raised Prairie Avenue and the residential properties on the east and west of the railroad.
- Results in closing the intersection of First Avenue and Prairie Avenue.

Woodlawn Avenue

- Raises the street elevation by approximately 6 feet.
- Results in raising First Avenue to meet the increased elevation of Woodlawn Avenue.

At the north end, the railroad would remain depressed until crossing under Rand Road. The project limits in Alternate 2 would extend further north of Rand Road compared to Alternate 1 because only a 14-foot, 6-inch highway clearance is required for Alternate 1 compared to a 23-foot railroad clearance required for Alternate 2.

Alternate 2 is more expensive compared to Alternate 1 because of the required project length, longer and higher retaining walls, and tunnel construction. Ventilation of the tunnel and trespassing within the tunnel are negative attributes for Alternative 2. This alternative would also require special design consideration for going under Weller Creek and include the installation of Pump Station near Weller Creek to minimize water in the tunnel and to maintain the ground water level. The initial construction and subsequent operation cost would be high. This alternative was dropped from further consideration.

- **Alternate 3 – Double Track At-Grade**

This design alternative provides double track at-grade. This alternative would be the least costly alternate. No right-of-way acquisition would be required and the impact to the ComEd transmission towers could be avoid. Interruption to service along the WC and Metra during construction would be minimal. New bridge structures would be constructed at US Route 14 and Weller Creek.

This alternate does not eliminate the at-grade intersection of the WC with the UPNW and UPM lines. Projected traffic volumes along all three railroad lines require additional capacity improvements. Although staying at grade has the least amount of impact to adjacent businesses and residences, the increase in capacity is not nearly as great as providing grade separations at the UP Lines. Freight and the commuter trains will still have some delay waiting for the UP trains to clear the intersection before proceeding. At-grade crossings with all the side streets would remain, including Golf Road and Rand Road, which have daily traffic volumes in excess of 30,000.

This alternate does not fully meet the capacity and safety needs of the project and it was dropped from further consideration.

- **Alternate 4 – No Build**

This design alternative would leave the existing single track configuration along the Wisconsin Central. It assumes the existing underpass along US Route 14 would be addressed separately. No improvements to the railroad intersections would be made. Given the proposed increase in future traffic, congestion and delays will continue to worsen. Back-ups along the Wisconsin Central extending beyond the street crossing would occur causing roadway traffic delay, as well.

This alternate does not fully meet the capacity and safety needs of the project and it was dropped from further consideration.

- **Other Considerations**

Vibration and Noise:

The compacted soil in the embankment and the retaining wall would act as a vibration damper. Modern railroad track construction techniques eliminate the clacking noise when the train wheels formally ran over the track joints. A detailed noise and vibration analysis would be conducted in the Phase 1 Studies of the project and mitigation will be assessed and implemented, if necessary.

Aesthetic, Landscaping, and Maintenance:

The proposed embankment would be landscaped for both acsthetic and erosion control purposes. Special plantings could be included to enhance the area. A rendering of this area is included in Exhibit 22. A maintenance agreement could be prepared between the City of Des Plaines and the Wisconsin Central to maintain the landscape.

Derailment:

Train derailments are extremely rare but are of concern on an elevated structure. To contain and limit any possible damage from derailed cars, the railroads plan to use the inner guard rails on the tracks to keep car wheel within the track. The lower speed limit in this area will further mitigate any possible problems.

Changes in Traffic Patterns:

Without a grade separation along the Wisconsin Central, train speeds will continue to operate slowly. Delays caused by the at-grade railroad crossings between the Union Pacific lines and Wisconsin Central Line would continue to cause backups to the north and south along the Wisconsin Central. This would result in corresponding delays on the cross streets. If the Wisconsin Central were grade separated, delays from the railroad crossing at the Union Pacific lines would be eliminated. Cross roads in the project limits would also be grade separated and vehicle delays would be eliminated.

Dempster/Thacker Street would remain at-grade. The closest grade separated cross street would be Prairie Avenue. With trains able to move at faster pace, the vehicular traffic delay at the gate would be reduced. Motorists will soon realize that it would be faster to wait for the train to pass the Dempster/Thacker Street intersection than using the nearby streets as a bypass.

IV. CONSTRUCTABILITY AND TRAFFIC MANAGEMENT ANALYSIS

A. US ROUTE 14

One of the desired criteria for the evaluation of the realignment of US Route 14 was to maintain the existing traffic during the construction of the new roadway and grade separation. Alternates 1 through 5 propose to construct US Route 14 on a new alignment. Therefore, it is feasible to maintain traffic during construction. The new UPM and WC bridges can be constructed under railroad traffic. Jump spans and weekend closure may be required. Once the realignment portion of the roadway is completed, the traffic would be shifted to the new pavement while the old roadway is removed and filled. Minor traffic control and temporary pavement would be required where the realigned roadway matches the existing pavement.

B. WISCONSIN CENTRAL

One of the project requirements was to maintain railroad traffic during construction of a grade separation. This objective is feasible. Temporary shoring and sheet pile walls would be required. During construction of the new grade separated Wisconsin Central track, the existing WC and Metra traffic would utilize the existing or some temporary track during the construction. Once the new track is completed, the rail service would be shifted from existing track to new track. Then, the existing track would be removed. The temporary retaining walls would require a cable tie-back system during the embankment construction.

No extensive closures would be anticipated to facilitate this construction. The tie-ins to existing track at each end of the grade separation project could require some minor interruption in services. The at-grade improvement at Dempster/Thacker Street would require temporary roadway closure to raise the railroad and roadway grade.

V. CONSTRUCTION COST ESTIMATES

The estimated construction cost was established for each roadway and railroad alternate. The estimates include roadway and railroad construction, bridges, retaining walls, pump station, drainage, restoration, right-of-way acquisition, and utility relocation. If the relocation of ComEd transmission lattice towers requires property acquisition, the cost estimates would require adjustment.

Summaries of these costs are included in Exhibits 20 and 21. The cost estimates for the US Route 14 realignment were prepared as mutually exclusive from the Wisconsin Central grade separation. If both projects were constructed as part of the same project, the costs would be lower. The Wisconsin Central Overpass proposal in this report includes double tracking.

VI. PROJECT COORDINATION

This project has been studied in coordination with City of Des Plaines, the Illinois Department of Transportation, the Union Pacific Railroad, Metra, and the Wisconsin Central, Ltd. In addition, this study has also involved Pace and private utility companies including AT&T, Commonwealth Edison, Telefiber/Media One, Ameritech, North Shore Gas Company, and Nicor Gas Company for their underground and overhead utility in the project limits. Project correspondence and meeting minutes are included in Appendix B.

VII. RECOMMENDED ALTERNATES

A. US ROUTE 14

Six alternates were evaluated based on geometrics, traffic and safety improvements, constructibility, impacts to adjacent properties, and project cost. Of the alternates studied, **Alternate 2 – Underpass, Furthest Shift South, Minimal Walls**, is considered to be the most feasible alternate to carry forward for detailed design as part of Phase 1 engineering. Alternative 2 provides the most desirable roadway geometrics while minimizing the retaining wall needs and project cost.

B. WISCONSIN CENTRAL

Four alternates were evaluated based on traffic improvements, reduction in delay, constructibility, impacts to adjacent properties, drainage, and project cost. Of the alternates studied, **Alternate 1 – Elevated Track**, is considered to be the most feasible alternate to carry forward for detailed design. Alternate 1 eliminates train traffic delay due to the railroad intersection between the Union Pacific and Wisconsin Central railroads as well as prevents congestion on the adjacent cross streets due to the train crossing. While Alternative 2 meets the same objectives, its construction cost is approximately twice the cost of Alternative 1 and the long term maintenance/operation costs are anticipated to be higher.

VIII. SUMMARY AND CONCLUSION

The realignment of both US Route 14 and the Wisconsin Central Railroad are feasible designs to enhance the traffic capacity of the regional transportation system. The deteriorated wooden bridge, the substandard roadway geometrics along US Route 14, and the heavy traffic demand generated by the Union Pacific and Wisconsin Central Railroads demonstrate the need for improvements. The proposals identified in this study would enhance traffic safety and operations in the "S" curve area.

The alternates recommended for both US Route 14 and Wisconsin Central do not have to be built as one project. It would be beneficial to construct both projects at the same time to minimize traffic distraction and improve cost effectiveness. The major cost saving will be the bridge structure for railroad over US Route 14. The design of both recommended alternates can accommodate a future commuter transfer station at the Deval location. Platforms, stations, and parking lots could be incorporated at the project site. Detailed analysis would be required to determine the extent of impacts.

All agencies involved in this study would benefit from the completion of this project. In addition to the funding contribution from each agency, additional financing for this project may be acquired through the following programs:

- Funding for Infrastructure, Roadways, Schools, and Transit (FIRST)
- Illinois Grade Crossing Protection (IGCP)
- Hazard Elimination Safety Program (HESP)
- Rail-Highway Grade Crossing (RAIL)
- State Discretionary Funding
- Surface Transportation Program (STP)
- Congestion Mitigation and Air Quality Program (CMAQ)
- Transportation Enhancement Program (ITEP)
- Operation Green Light (OGL)

It is recommended that the preferred design alternatives presented in this study, which realign US Route 14 and provide an overpass for the Wisconsin Central Railroad be further developed. The project should be pursued as a joint effort with the involvement of the IDOT, Wisconsin Central, Union Pacific, City of Des Plaines, Metra, and various related agencies. The implementation of these projects would improve traffic safety needs along US Route 14 as well as the regional roadway and railroad system.