De LEUW CATHER

Phase II

De Leuw, Cather & Company
Engineers and Planners • Chicago

Report to

Linn County Regional Planning Commission
Rail Study Advisory Committee

Comprehensive Railroad Study
for
Linn County, Iowa

July, 1980

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Chapter VI

DEVELOPMENT AND EVALUATION OF IMPROVEMENT ALTERNATIVES

OVERVIEW

At the conclusion of Chapter V, the deficiencies in the existing rail system were summarized. The next process in the study was to analyze each individual problem and develop possible solutions. This analysis included review of previous reports, numerous interviews with railroad, shipper and community representatives, and field inspections and surveys. Forty potential improvement alternatives were identified. Of these, 13 were, for various reasons, eliminated from consideration after a preliminary screening.

The remaining 27 were studied in depth and evaluated based on these criteria:

1. Capital costs
2. Operating expense
3. Improvements in service expected
4. Feasibility of physical plant or operational changes
5. Savings generated
6. Funding availability
7. Cost benefit comparison
8. Compatibility with overall plan.

To the extent possible, costs and benefits were quantified; however, certain alternatives either could not be quantified or are dependent on so many variables that only very general estimates could be made.

Nine major problem areas were identified in Phase I of the study and, in Phase II, a number of possible solutions were developed to eliminate or minimize each problem. De Leuw, Cather and the Rail Study Advisory Committee made a preliminary evaluation of these alternatives and some were dropped from further consideration. In the following discussion, the improvement alternatives that were eliminated in the initial screening are marked with an asterisk (*).

Some of the improvement alternatives are connected closely to the specific requirements of an individual railroad or an industry, from either an economic or a competitive standpoint. These alternatives do not lend themselves to evaluation by the Advisory Committee or De Leuw, Cather; they must be independently

evaluated by the railroad or industry involved. Their salient features, including the service advantages, costs and savings, are described below in general terms but no specific recommendations have been made. Improvement alternatives in this category are marked with a double asterisk (**).

A third group of alternatives was put into effect while this study was still in progress. These alternatives are indicated by a dagger (†).

PROBLEM I - INSUFFICIENT SUPPLY OF SERVICEABLE RAIL CARS

**I-1: Industries Buy or Lease Cars

Discussion: The major industries in Cedar Rapids presently own or lease a total of 3,120 rail cars, as follows:

Air Slides	200
Tank Cars	2,350
Flat Cars	20
Covered Hoppers	50
Boxcars	500
Total	3,120

In spite of the number of cars owned or leased, there is an identified need for at least an additional 50 air slides, 250 boxcars, and 250 covered hoppers in the Cedar Rapids area.

One possible solution would be that the industries buy or lease sufficient cars for their transportation requirements.

Each industry would determine the number of cars needed in addition to the cars assigned by railroads and the free running cars it could realistically expect to receive from the railroads in Cedar Rapids. Once the number was determined, the industry would decide whether to buy or lease the needed rail cars. The purchase of cars would involve a large initial investment; moreover, there is presently a 12- to 15-month backlog on car orders. The industry would also have the added expense of maintenance if it owned its cars.

Implementation: The actions required to implement this solution are:

- Industries determine the number and type of rail cars needed

- Industries decide, based on economics, whether to buy or lease cars
- Industries either purchase the necessary cars, or
- Industries enter into an agreement with a car-leasing company.

Costs/Benefits:

Capital Investment:

- Price of cars, if cars are purchased: typically, $35,000 to $45,000 for boxcars or covered hoppers.

Operating Expense:

- Lease costs, if cars are leased: $300 to $500 per car per month depending on specific contractual terms
- Maintenance of cars.

Operating and Capital Benefits:

- Industry would reduce need for higher-cost alternate transportation
- Industry might avoid in-plant down time caused by lack of rail cars for loading
- Industry would be better able to meet shipment schedules
- Shipping costs would normally be lower with industry-owned or leased cars, because of mileage allowances paid by railroads.

Funding: The funding for rail car purchase or leasing would have to come from the industry itself. The operating and capital benefits would, to an extent, offset capital investment or operating expense.

General Evaluation: The acquisition of cars by an industry, either by lease or by purchase, is an action normally taken because special equipment is required or the serving railroad simply does not supply enough cars for the traffic. If alternate transportation--usually truck--is too expensive

- Maintenance of cars.

Operating and Capital Benefits:

- Railroads would receive increased revenue because of the availability of additional cars
- Transportation costs for industries would be less because of improved car supply
- Railroads would reduce car hire expense with less use of foreign line cars
- A reliable car supply could promote industrial expansion.

Funding: The railroad would finance the purchase of new equipment. Possibly, federal loans or 4R Act funds could be obtained by the railroad for purchase. No cash outlay would be needed by the railroad if it leased cars. In either case, the added revenue should offset the increased costs.

General Evaluation: Before acquiring freight cars, a railroad normally determines the need, cost, and return on investment that can be realized from the additional cars. If the return on investment is favorable compared to other projects, the cars will be leased or purchased. This is an investment decision similar to that made by all industries before committing funds.

Each railroad has its own financial constraints and standards for determining whether or not it should acquire more freight cars. While one of the facts brought out by this study is a shortage of cars, only the railroads and the affected industries can determine the advisability of car lease or purchase. It is suggested that the railroads and industries make a concerted effort to examine freight rates, car ownership expense, and overall transportation costs to determine where railroads can profitably furnish more cars.

** I-3: Railroads Repair or Upgrade Bad Order Cars

Discussion: Bad ordered cars have been a major cause of car shortages. This is particularly true in the case of boxcars; currently about 13 percent of the nationwide fleet is out of service. Also, some railroads have made a practice of storing or scrapping cars requiring repairs exceeding a

specified amount. Because of the economic condition of many railroads, repair programs have been curtailed and, as cars are bad ordered, they are taken out of service and the fleet size decreases. This makes it increasingly difficult for industries to get the needed cars for loading.

While both industry and the railroads would benefit from car rehabilitation programs, the major problem has been the financial inability of the railroads to maintain such programs. Car repair and upgrading is often more cost effective than purchasing new cars; moreover, the long lead time required for new cars is avoided.

To make car rehabilitation programs attractive to railroads, they must anticipate a reasonable profit on the equipment after it is returned to service. Also, money must be available at a fairly low rate. Preference share or guaranteed loan financing under the 4R Act is one possibility. Another recent development is the effort of several railroads to set up an organization which would finance the rehabilitation of cars, with member railroads paying off the costs on a usage basis. Essentially, these plans provide the railroads with a means of returning bad order cars to productive use with minimal initial cash outlay.

Implementation: The actions required to implement this solution are:

- Railroads obtain financing for car repair programs
- Railroads institute programs to repair and return needed cars to service.

Costs/Benefits

Capital Investment:

- Partial cost of car rehabilitation
- Costs to initiate repair program.

Operating Expense:

- Costs involved in operating a car repair facility
- Maintenance cost of cars after return to service.

Operating and Capital Benefits:

- Avoids costs of purchase or lease of new cars
- Added revenue is received from use of additional serviceable cars
- Car hire costs are less because of less dependence on foreign line cars
- Industries could reduce use of higher-cost alternate transporation with adequate car availability.

Funding: Since many railroads do not have adequate cash for large car repair programs, financing would, for the most part, probably have to be obtained through outside sources - either through the provisions of the 4R Act or some other means. For example, the CNW presently has a car repair program at its Clinton, Iowa, shops financed by 4R loan guarantees and the ICG is involved in efforts to establish a cooperative program among a number of railroads to rehabilitate cars. These are two possible ways bad order cars can be returned to productive service with minimal cash outlay by railroads.

General Evaluation: Railroad programs for heavy repair or upgrading of freight cars fall into the same category as buying new cars: if an adequate return on investment can be realized the work will be authorized. This decision must be made by each individual railroad; no action can be proposed in this study beyond suggesting that the railroads and industries work together in an effort to establish areas where it is mutually beneficial for car repair programs to be progressed. In addition, innovative financing methods should be considered to fund repair programs so as to minimize front-end cash outlays by railroads.

I-4: Industries Finance Railroad Rehabilitation of Cars and Are Repaid on a Rebate Basis

Discussion: The RI, in conjunction with several Cedar Rapids industries, participated in a program whereby the industries financed rehabilitation of cars. The RI then assigned these cars to the participating industries who were repaid by the RI on either a monthly or a per-car-shipped basis.

This type of program is beneficial to both the railroads and industries. The railroads have cars rehabilitated with no cash outlay while the industries have cars assigned without purchase or lease. Once the industry has been completely repaid, the agreement is renegotiated or terminated. This type of program has the added advantage of making productive use of railroad car shop facilities and personnel that might otherwise remain idle.

Implementation: The actions required to implement this solution are:

- Industry determines the type and number of cars needed for its service
- Railroad determines the availability of bad order cars of the type required and the extent and costs of necessary rehabilitation
- Railroad and industry negotiate an agreement covering the rehabilitation program and financial terms
- Railroad develops a schedule and proceeds with the work
- Railroad assigns rehabilitated cars to industry.

Costs/Benefits:

Capital Investment:

- Partial cost of rehabilitation.

Operating Expense:

- Most car rehabilitation expense.

Operating and Capital Benefits:

- Railroad car hire expense reduced because of less dependence on foreign cars
- Normally, less expensive for industries than purchasing or leasing cars
- Increased revenue for railroads because of more traffic resulting from a better car supply

- With adequate cars available, industries should have less need to use higher-cost alternate transportation.

Funding: The industries would fund car rehabilitation programs and be repaid by the railroads on a negotiated basis.

General Evaluation: This type of industry-financed car repair program is relatively new but has been utilized successfully by a number of industries, including several in Cedar Rapids. A careful analysis must be made by the industry and railroad involved in each specific set of circumstances. This plan provides railroads with a means to return cars to revenue service with no initial cash outlay. It offers participating industries a guaranteed supply of cars. To the extent that railroads have shop capacity available and out of service cars of types needed by industries, this plan warrants serious consideration.

I-5: Implement a Car Cleaning and Upgrading Program

Discussion: The rejection of available empty cars because they are unfit for loading causes car supply problems in Cedar Rapids as it does elsewhere. Cedar Rapids industries require relatively high class rail cars for loading and the major industries surveyed indicated a rejection rate ranging from 3 percent to 65 percent. Some industries will clean or upgrade unfit cars themselves or load marginal cars to meet shipping schedules.

At present, no car cleaning or upgrading is done in Cedar Rapids with the exception of a limited amount of cleaning by the CRANDIC at Uptown Yard. The CNW had a cleaning and washing facility at Beverly Yard, but it was closed in 1979. The nearest active car cleaning facility is on the ICG in Waterloo, Iowa.

A car cleaning and upgrading facility in Cedar Rapids would help reduce the number of cars rejected and effectively increase the car supply. Possible locations for this facility could be in either the MILW or RI yard or the reactivated CNW facility at Beverly. A cleaning track in either the RI or MILW yard would have the advantage of being near the major car users. At Beverly, the advantage would lie in the use of an existing facility. A cleaning and upgrading facility could be operated jointly by all carriers in Cedar Rapids, possibly with an outside contractor performing the work. This type of joint effort would avoid duplication of facilities and provide for a more efficient and cheaper operation.

Implementation: The actions required to implement this solution are:

- Railroads make an analysis to determine costs and savings that would result from the operation of a cleaning and upgrading facility
- Railroads negotiate an agreement covering the operation and cost divisions, if a joint cleaning and upgrading facility is planned
- Physical changes are made to accommodate a cleaning and upgrading operation (if a new facility is established)
- Railroads enter into an agreement with a contractor for the necessary service if railroad forces are not used.

Costs/Benefits:

Capital Investment

- The cost to set up cleaning, washing and/or upgrading facilities. This could range from minimal expense if the existing cleaning track at Beverly were used to possibly $100,000 if an entirely new facility were established at some other location.

  One aspect - pollution control - could increase costs, particularly if cars were washed and not dry cleaned.

Operating Expense: Operating costs of a car cleaning and upgrading facility consist of three elements:

- Labor, which generally runs from $5 to $20 per car cleaned and/or upgraded
- Material costs for upgrading. The type of operation contemplated here would be limited to patching floors, wall lining and car roofs. Costs should not exceed $20 per car for material.
- Miscellaneous expenses including utilities and maintenance of facilities. For a small cleaning and upgrading operation this cost should not exceed 10 percent of the labor and material costs.

Operating and Capital Benefits:

- Increase equipment utilization by reducing the number of cars rejected. A rough (and probably conservative) estimate is that an empty car coming into Cedar Rapids that is rejected for loading will be detained three days before either being used for lower grade freight or dispatched to some other location. At an average car hire cost of $8.00 per day, a reject will cost a railroad $24.00 in time lost in the terminal area alone, not including mileage charges if the car must be moved to another loading point.

- Increase revenue to railroads because more fit cars will be available for loading. The revenue now lost by railroads because of lack of cars is nearly impossible to estimate but is sizeable, since one Cedar Rapids industry alone frequently experiences shortages of 20 to 30 cars per day during peak loading periods.

- Extra switching and mileage payments for rejected cars will be avoided. These costs vary on a car by car basis but can become significant.

- Loss and damage claims will be reduced because of availability of more clean and fit cars. This again is a factor difficult to quantify but is substantial.

Estimated costs and savings associated with a small cleaning track operation are shown in Table VI-1.

Based on the estimated volume of cars, a cleaning track operation would show a profit even without considering reduced switching, car miles and potential revenue gains.

Funding: The railroads involved in the car cleaning and upgrading facility would fund the initial investment to set up the facility. The savings realized from this facility should offset the initial cost and operating expense of the facility. It is possible that local industries would be willing to participate in the initial costs.

Table VI-1

ESTIMATED COSTS AND SAVINGS:
SMALL CLEANING TRACK OPERATION*

Operating Expense	Annual Cost
Labor	
1 Foreman @ $9.00/hour	$ 18,720.00
4 Laborers @ $7.00/hour	58,240.00
Overhead @ 40%	30,780.00
Total Labor	$107,740.00
Material for upgrading @ $20.00 per car	52,000.00
Miscellaneous Expense @ $500.00 per month	6,000.00
Ownership cost of facility @ 10% of $75,000	7,500.00
Total annual expense	$173,240.00
Cost per car based on 7,800 cleaned and 2,600 upgraded per year	$ 22.21
Savings	
Car hire 3 days per car @ $8.00 per day	$ 24.00
Net savings per car	$ 1.79

* Assumptions:

1. 30 cars a day 5 days per week would be cleaned and 10 of these would require light upgrading (patch floors, wall linings and roofs).

2. Value of fixed facilities estimated to be $75,000.00.

3. Labor would be furnished by a contractor.

General Evaluation: Depending on size, location, facilities and volume, actual costs at existing railroad cleaning tracks range from $5 to $25 per car; this indicates that the costs cited in Table VI-1 are, if anything, on the high side. It would appear that a cleaning and upgrading facility would be financially attractive, particularly when factors such as reduced switching, reduced unnecessary car mileage and additional car supply and revenue are considered. Once a potential site for a cleaning track and the type of facilities desired are selected, costs can be developed more accurately.

*I-6: Establish Cedar Rapids Car Pool with Cars Furnished by Industries or Railroads

Discussion: Another possible solution to the car supply problem could be the formation of a Cedar Rapids car pool. The cars for the pool could be assigned by the industries, railroads or a combination of both. The first step would be to determine the number and type of cars needed by the industries involved in the pool and to acquire these cars.

An administrative staff would have to be organized to manage the Cedar Rapids car pool. This staff would be in charge of the day-to-day operations handling the distribution of cars to industries.

A procedure for filling car orders would need to be developed and agreed to by all participants. This could present a problem at times when there is an insufficient supply of cars. The cost of the administrative staff and the maintenance of the rail cars for the Cedar Rapids car pool would be shared by the railroads and the industries.

Implementation: The actions required to implement this solution are:

- Determine the number and type of cars needed by major Cedar Rapids industries
- Determine source of funding for car pool
- Organize a Cedar Rapids car pool administrative staff
- Enter into an agreement covering operation and division of expenses of the car pool
- Acquire the necessary cars and put pool into operation.

Costs/Benefits:

Capital Investment:

- Cost of equipment necessary to set up car pool.

Operating Expense:

- Salaries for car pool staff
- Maintenance of cars

Operating and Capital Benefits:

- Increased revenue for railroads
- Availability of more cars for industries
- Possible reduction of freight rates for industries
- Reduced car hire for railroads because of less dependence on foreign line cars.

Funding: A Cedar Rapids car pool should be funded as a joint venture between the industries and railroads. The savings realized from a car pool should help to offset the costs of operations.

General Evaluation: It would be extremely difficult to develop an equitable plan for cost sharing and use of equipment. There was no interest expressed by committee members and, as there are several other better methods available to improve car supply, this alternative was eliminated in the initial screening.

I-7: Review and Modify Tariffs

Discussion: Railroads commonly attempt to maximize income by furnishing cars of types that are in short supply wherever the greatest revenue will be generated. When a railroad concludes that, either because of a low freight rate, high car hire costs for the equipment required, or a combination of both, the traffic is not profitable, it may be reluctant to furnish cars. A favorable rail rate may be in effect that is practically meaningless because cars are not furnished and alternate, more expensive modes of transportation must be used.

Rates and tariff provisions have been a contentious subject since the first railroad was built. More recently, applicable car hire costs have become a matter of controversy as well. Also, Congress is now considering legislation that will eventually deregulate rate making to some extent. Certain rates (such as some transit rates) are outmoded and should be revised or eliminated.

Amidst all this confusion two things seem clear; first, railroads should not be expected to haul freight at break-even or losing rates; second, industries should have a clear choice between a reasonable rail rate and the cost of transportation by other modes. If, for example, the overall costs of moving a product by truck are below comparable rail costs (with rates at realistic levels), then the correct economic choice would be shipment by truck. Both railroads and shippers would have a solid basis on which to plan future transportation, equipment requirements, yard capacity, etc.

All questionable rates involved with the movement of freight in or out of Cedar Rapids should be examined jointly by industry and railroad personnel to determine what adjustments should or could be made. Possible modifications would be affected by such elements as whether cars are railroad or shipper owned and whether or not transit privileges are involved.

Implementation: The actions required to implement this solution are:

- Railroads and affected industries agree to undertake a comprehensive rate review
- Railroads and industries designate personnel to perform this study
- Following review, railroads file for rate revisions through normal regulatory channels.

Costs/Benefits:

Capital Investment:

None

Operating Expense:

- Cost of industry and railroad personnel committed to the project.

Operating and Capital Benefits:

- Difficult to ascertain but railroads might eliminate unprofitable traffic or gain some additional, profitable traffic and industries might experience lower overall transportation costs.

Funding: This program would be mutually beneficial to railroads and industries and they should share the expense.

General Evaluation: This alternative would be difficult and time consuming and results would come slowly. However, it is an extremely important area that warrants thorough study by both railroads and shippers because of potential mutual benefits. The railroads could possibly gain profitable traffic (or eliminate some presently not profitable) and the problems related to an uncertain car supply would be reduced for industries. A start should be made toward rationalizing questionable rates.

PROBLEM II - INADEQUATE OR INSUFFICIENT YARDS AND CONNECTING TRACKAGE

†II-1: Some or All Railroads Use MILW Yard

Discussion: The MILW intends to cease all operations in Cedar Rapids area and its facilities will be available for acquisition by other railroads. It is proposed that the CRANDIC, ICG and possibly the CNW share the use of the MILW Cedar Rapids Yard. At a minimum the CRANDIC would need access to the 6th Street power plant and possibly trackage to store cars for this facility; also, sufficient space would be required to permit direct interchange with the ICG. The ICG should have use of enough trackage to relieve the congestion in its yard and for access to the track scale. Provision should also be made for team track facilities at this yard to permit eventual retirement of the ICG City Yard.

In the event the CNW does not acquire all of the RI yard, it should have access to the MILW track scale.

The MILW main track extending as far north as Iowa Manufacturing should probably be acquired in conjunction with the yard by whatever carrier purchases the yard.

Implementation: The actions required to implement the solution are:

- CRANDIC, ICG and/or CNW agree, if possible, to sole or joint ownership of the yard
- An individual or joint purchase offer is made to the Trustee of the MILW and a sale price negotiated
- CRANDIC, ICG and CNW agree to a joint operating plan, access to industries and division of expenses
- Necessary revision and upgrading of trackage are performed.

Costs/Benefits:

Capital Investment:

- Purchase price
- Upgrading and revisions of trackage.

Operating Expense:

- Maintenance of trackage.

Operating and Capital Benefits:

- ICG and CRANDIC would save intermediate switch charges on interchange traffic
- ICG and CNW would save yard engine time weighing cars because of a better scale location
- BOTH ICG and CRANDIC should save car hire cost because of direct interchange
- CNW would avoid the cost of installing a track scale at Beverly.

Funding: The acquiring railroad(s) should obtain financing for purchase, track revisions and upgrading, possibly through 4R Act provisions. The operating and capital benefits would, to an extent, offset initial costs.

General Evaluation: This alternative has basically been put into effect on an interim basis. The ICG and CRANDIC have taken over former MILW property and operations and are negotiating a purchase agreement with the MILW Trustee.

†II-2: CNW Uses Some or All of RI Yard

Discussion: The CNW at present lacks adequate yard capacity in Cedar Rapids. This situation will become even more acute when the MILW and RI cease operations, since the CNW can reasonably be expected to pick up a large share of the traffic formerly handled by these carriers. From a location standpoint, the RI Yard would be nearly ideal for use by the CNW and would not only correct the inadequacy of the Transfer Yard but would also relieve the frequent congestion at Beverly Yard. Use of the track scale at the RI Yard would eliminate moving cars to East Yard for weighing and would allow the CNW to avoid constructing a scale at Beverly. Part of the Transfer Yard could be retired and the property released for sale.

While some rearrangement of trackage in the RI yard would be desirable to permit a better operation, the general condition of the yard is good. By acquiring the RI yard, the CNW would have a downtown yard of sufficient size to permit

direct through train operation in and out of Cedar Rapids without an intermediate transfer move as is now required.

If another railroad does not acquire the RI main line, the CNW should purchase all RI trackage from the Cedar River bridge on the south to the north end of the RI yard. If another railroad acquires the RI through Cedar Rapids, the CNW should negotiate for purchase or rental of a section of the RI Yard. Even partial use of the RI Yard would permit substantial operating improvements by the CNW.

Implementation: The actions required to implement this solution are:

- CNW negotiates with the Trustee of the RI for purchase of the RI Yard and other trackage within the terminal area
- If another carrier acquires the RI route through Cedar Rapids, the CNW should work out an agreement with that carrier to use part of the RI Yard
- Yard trackage is revised and upgraded as required.

Costs/Benefits:

Capital Investment:

- Purchase price of RI property
- Upgrading and revisions of trackage.

Operating Expense:

- Maintenance of trackage.

Operating and Capital Benefits:

- Avoids costs of upgrading the Transfer Yard
- Avoids costs of expanding Beverly Yard
- Avoids costs of installing a track scale at Beverly Yard
- Saves yard engine time and car hire costs associated with moving cars to East Yard for weighing

- Saves yard and transfer engine time by reducing movements between Beverly and the Transfer Yard

- Permits possible gain from sale of property in the Transfer Yard area.

Funding: The CNW would obtain financing for purchasing, track revisions and upgrading, possibly through 4R Act provisions. The savings noted above would offset initial costs, and sale of released Transfer Yard property could give CNW a one-time gain.

General Evaluation: This alternative has been put into effect and the CNW has taken over temporary operation of all RI property in Cedar Rapids. If the Kansas City Southern (KCS) eventually acquires the RI property, this alternative should be reconsidered.

*II-3: Expand Beverly Yard

Discussion: A possible way to provide the CNW with more track space would be to expand Beverly Yard. From a physical standpoint, this is feasible since space is available and the terrain presents no particular obstacles. Financing, however, would be a problem. Since there appear to be no existing government programs that would fund a yard expansion, the CNW would probably have to finance this project with money generated internally or obtained through FRA-guaranteed loans or preference share financing.

Implementation: The actions required to implement this solution are:

- CNW makes a determination that expansion of Beverly is necessary and warranted

- CNW constructs additional trackage.

Costs/Benefits:

Capital Costs:

- Cost of constructing new trackage: on the order of $1.2 million for five additional tracks with a total length of approximately 10,000 feet.

Operating Expense:

- Additional ongoing track maintenance.

Operating and Capital Benefits:

- Yard and transfer engine savings with reduction of delays and extra switching caused by lack of yard room
- Car hire savings generated by faster and more efficient movement of traffic.

Funding: It appears that any expansion of Beverly Yard would have to be funded by the CNW, possibly with 4R Act financing.

General Evaluation: If the CNW is successful in negotiating a permanent purchase or lease of all or part of the RI Yard, thus increasing available trackage, this alternative will be unnecessary.

*II-4: Use Marion Yard for Car Storage

Discussion: A common railroad problem is storage area for inactive cars--frequently bad orders awaiting disposition or repairs. At times, there is no demand for certain types of serviceable equipment and these cars must also be stored. Stored cars congest yards and create operating inefficiencies. Periodically, the Cedar Rapids yards of the various railroads contain sizeable numbers of such cars. To the extent possible, inactive cars should be stored outside of busy yards.

One way to relieve the car storage problem in the Cedar Rapids area would be to use the present MILW Marion Yard for storage as it will no longer be an active yard. Two possibilities exist: the road taking over the MILW's operation in Marion could use the yard exclusively, or joint use might be made of the yard by several railroads. In the latter case, equitable car handling costs would have to be worked out by the participating railroads.

Implementation: The actions required to implement this solution are:

- A sales agreement is negotiated between the acquiring railroad(s) and the Trustee of the MILW
- If more than one railroad are to use Marion yard, a joint operating agreement is worked out.

Costs/Benefits:

Capital Investment

- Purchase price of yard trackage.

Operating Expense:

- Maintenance of yard trackage
- Car movement to and from Marion for storage.

Operating and Capital Benefits:

- Avoids costs of constructing trackage at some other location
- Saves yard engine time in active yards because of more efficient operations
- Reduces car hire costs because of faster car movement resulting from less yard congestion.

Funding: The acquiring railroad(s) would obtain financing for purchase either internally or through 4R Act provisions.

General Evaluation: This alternative was eliminated in the initial screening because the location of Marion Yard prevents easy access and its use for car storage appears to be impractical.

**II-5: Industries Finance Storage Tracks for Their Cars

Discussion: Some major Cedar Rapids industries have substantial numbers of owned or leased cars. Historically, the railroads have provided trackage for storing these cars. Even though industries in some cases lease railroad trackage, the return to the carriers is usually less than the ownership costs of the trackage used. Annual rental rates seldom exceed $2.00 per foot of track compared to a replacement value of $50.00 to $80.00 per foot.

To provide the necessary storage space, it would appear that industries with large fleets of leased cars should participate to a greater extent in providing trackage.

The problem of holding leased cars could become even more acute in Cedar Rapids as planned expansion of certain key industries takes place and the trend to more industry leasing of cars continues.

Implementation: The actions required to implement this solution are:

- Each industry that leases cars analyzes its storage needs in conjunction with the serving railroad
- Industry and railroad determine the most efficient and practical location for the necessary trackage
- An equitable arrangement is negotiated for construction and maintenance of the proposed trackage.

Costs/Benefits:

Capital Investment:

- Cost of constructing new trackage or purchasing existing trackage: current costs of new trackage are approximately $50 per foot plus grading.

Operating Expense:

- Maintenance of owned or leased trackage

Operating and Capital Benefits:

- Possible reduction in demurrage charges to industries
- Yard engine savings to railroads because of increased efficiency made possible by more space or better location of storage tracks.

Funding: Industries with a leased car fleet would assume the costs associated with the ownership and maintenance of adequate storage trackage.

General Evaluation: To a limited extent, industries with a private car fleet have leased or purchased trackage for storage purposes. The cost of track might be partially offset by reduced demurrage charges. If the holding of an industry's cars creates an operational problem and added expense for the serving railroads, the basic question is whether the industry is willing to assist financially in the provision of adequate trackage. This alternative is one that must be decided on an individual basis by each industry.

**II-6: Store Heavy Bad Orders at Locations Outside Cedar Rapids

Discussion: All railroads require some storage space for bad order cars that will eventually be repaired or scrapped. However, when these cars are held in terminals where track space is limited, as is the case in Cedar Rapids, operating problems are created. To the extent possible, bad order cars should be stored at points other than active yards.

Implementation: The action required to implement this solution is:

- Railroads move heavy bad order cars to storage points outside the Cedar Rapids area.

Costs/Benefits:

Capital Investments: None.

Operating Expense: Minimal.

Operating and Capital Benefits:

- Some yard engine time should be saved because of more efficient operations resulting from less congested yards
- Some car hire cost savings should result from faster movement of traffic.

Funding: None required.

General Evaluation: This alternative must be considered and implemented on an individual basis by each railroad. The magnitude of the problem created by stored cars in the Cedar Rapids area and the availability of other storage sites will determine the desirability of this proposal.

II-7: Industries Assist Railroads in Efforts to Store Leased or Assigned Cars Outside Cedar Rapids

Discussion: As industries are assigned or lease increased numbers of cars, the storage of empties can become a serious problem at traffic origin points. This is particularly true if shipping volume tends to fluctuate a great deal. One method to minimize congestion at origin points is for shippers to keep serving railroads advised of car require-

ments. This will often permit the railroad to hold surplus cars enroute rather than congesting the terminal.

Implementation: The actions required to implement this solution are:

- Communications are established between each industry and the serving railroad so that the railroad has accurate information on car requirements
- Enroute holding points for surplus cars are designated by the railroad and excess cars held at these locations.

Costs/Benefits:

Capital Investment: None.

Operating Expense: Possibly some extra enroute handling of cars.

Operating and Capital Benefits:

- Some yard engine time should be saved because of more efficient operations resulting from less congested yards
- Some car hire cost savings should result from faster movement of trains throughless congested yards.

Funding: None required.

General Evaluation: This alternative requires only accurate forecasting of car requirements by shippers and adequate communications between shippers and the serving railroads. The importance of implementing this improvement would be determined by the extent to which cars held for loading create a problem.

II-8: Use of MILW Main Line Between Beverly Tower and Vera for Car Storage

Discussion: When the MILW ceases operations in the Cedar Rapids area, a new connection to the Amana line could be made from either the CNW or CRANDIC on the south side of the CNW main line. If this connection is installed, the present MILW main track north of Beverly Tower could be used for car storage by either the CNW or CRANDIC. If the CNW acquires

this track, a connection from the CNW running track just north of Beverly Tower could be constructed. If the CRANDIC buys the track, no connection would be needed as the CRANDIC already has access near Wilson Avenue. In either case, approximately 15,000 feet of trackage would be available for car storage and the railroad crossing at Beverly Tower could be retired.

If both the CRANDIC and CNW are interested in acquiring this particular segment of the MILW, it would simplify matters if a mutually satisfactory plan and division of ownership could be worked out between them. The important factor is that the trackage be available for storage; it does not make a great deal of difference to the project which railroad is actually the owner.

Implementation: The actions required to implement this solution are:

- CNW or CRANDIC negotiates purchase with the Trustee of the MILW
- A connection is built from the CRANDIC to provide access to the Amana line
- If the CNW acquires the trackage north of Beverly, a connection is installed from the CNW to the MILW.

Costs/Benefits:

Capital Costs:

- Purchase price of trackage
- Cost of connection from the CRANDIC to the Amana line of the MILW
- Cost of connection between CNW and MILW.

Operating Expense:

- Maintenance of trackage by new owner.

Operating and Capital Benefits:

- Avoidance of cost to either CNW or CRANDIC to build trackage elsewhere

- Maintenance and operating savings resulting from retirement of Beverly Interlocking
- Possible rental income if track is leased to an industry for storage of cars
- Yard engine time should be reduced because of less yard congestion and a relatively convenient track on which to store cars
- CRANDIC would not be subject to delays crossing the CNW at Beverly Tower.

Figure VI-1 indicates proposed track changes that would be required to implement this alternative. Table VI-2 summarizes a preliminary estimate of the costs and benefits associated with this plan.

Funding: The acquiring railroad would obtain internal or 4R Act financing for purchase and the necessary connections. There is a possibility that one or more industries might be interested in leasing some of this trackage and might consider partial funding. The above mentioned savings would at least partially offset the initial costs.

General Evaluation: This alternative would provide approximately 300 car lengths of car storage capacity at a fraction of the cost of constructing new trackage. Aside from additional track space, there are operational and maintenance savings that would accrue to both CNW and CRANDIC.

II-9: CNW Uses MILW Route from Vera to 9th Avenue and RI Yard

Discussion: In the event that the CNW acquires all or part of the RI Yard, it should have operating rights from Vera to 9th Avenue over the present MILW route. This would permit straight movements from Beverly to the RI Yard. It would also make eventual operation of through trains between Boone and the RI Yard much more feasible. If the existing CNW route is used, back up moves will be required to enter the RI Yard. The same would be true for movements from the RI Yard to Beverly. The proposed route would permit faster, more efficient moves between these two yards and also reduce crossing blockage in the 4th Street corridor. It is also possible that if this is done, parts of the CNW line west of the Cedar River could be abandoned and some grade crossings eliminated.

Table VI-2

ESTIMATED COSTS AND SAVINGS OF TRACK REVISION AT BEVERLY TOWER

Cost Item		Estimated Cost
Construct 3,300 feet of track		$137,000
Grading		205,100
Construct highway crossing		3,000
Property acquisition		25,700
Remove 2,930 feet of track		24,900
Net salvage		(14,800)
	Subtotal	$380,900
	Contingencies 10%	38,100
	TOTAL	$419,000

Savings Item	Costs Saved	
	Initial Cost	Annual Expense
Normalized maintenance		$23,000
Operators wages (2 hours per day, 4 days per week)		4,400
Delays to CRANDIC movements (0.5 hours per day, 4 days per week)		5,700
Cost of controlled interlocking when CTC is installed	$140,000	
Annual cost at 10%		14,000
Value of 15,000 feet of storage track	150,000	
Annual cost at 10%		15,000
		$62,100
Rate of return on project = $\frac{62,100}{419,000}$		14.8%

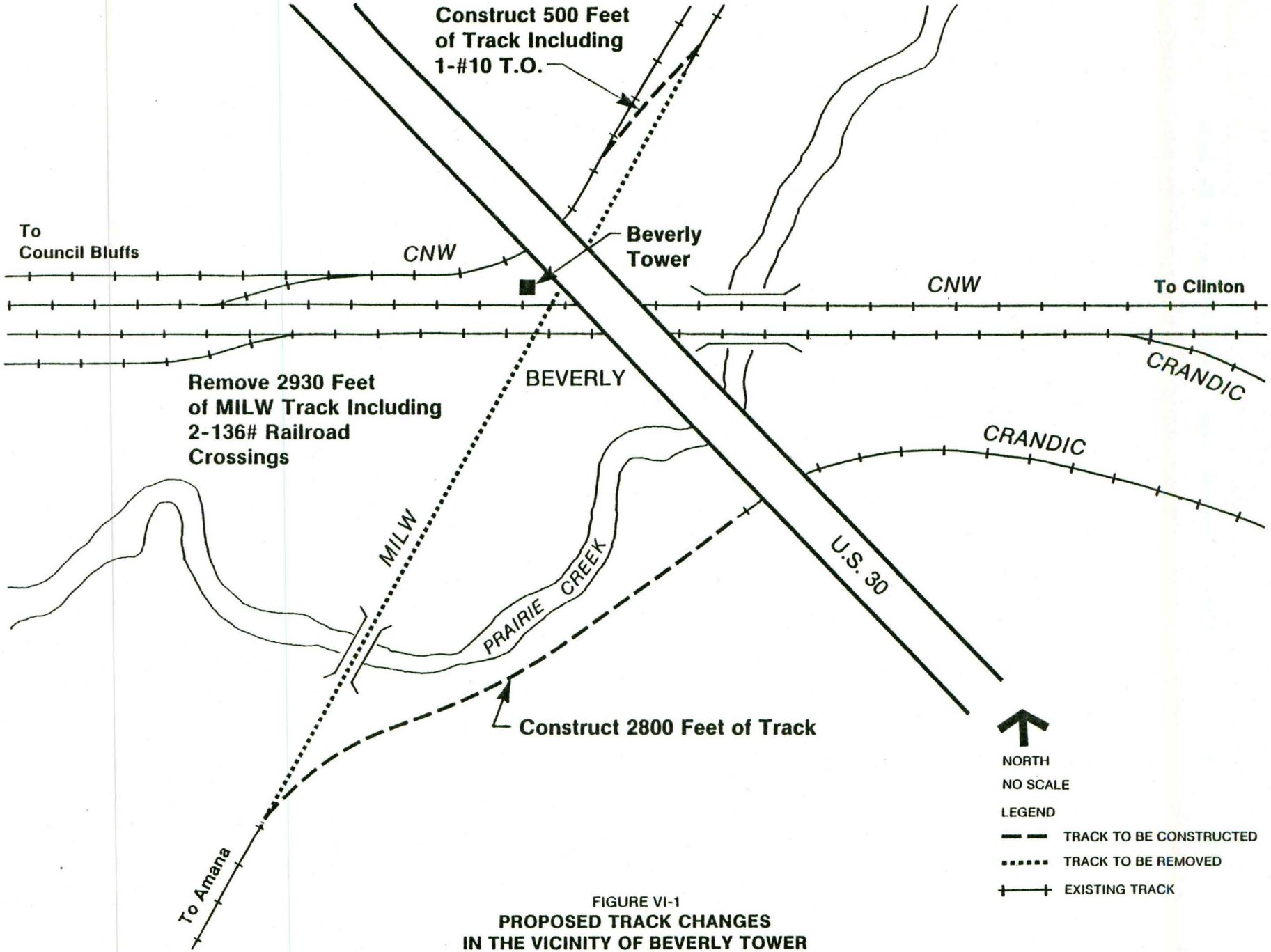


FIGURE VI-1
PROPOSED TRACK CHANGES
IN THE VICINITY OF BEVERLY TOWER

Implementation: This alternative would require the following actions:

- CNW negotiates a trackage rights agreement with the eventual owner of the MILW between Vera and 9th Avenue
- Connection is improved between the CNW and MILW at Vera
- MILW line is upgraded from Vera to 9th Avenue Tower.

Costs/Benefits:

Capital Investment:

- Cost of connection at Vera. This is not absolutely essential but would provide for a better operation than that possible using the existing connection
- Upgrade MILW line from Vera to 9th Avenue Tower.

Operating Expense:

- Payment of trackage rights rental by CNW.

Operating and Capital Benefits:

- Yard engine time would be saved because of faster moves between Beverly and the RI yard
- If part of existing CNW route west of the Cedar River is abandoned, maintenance costs would be reduced
- CNW would have a feasible route for through train movements between the RI Yard and Boone. This would eliminate some double handling of traffic at Cedar Rapids and result in savings in yard engine expense and car hire
- Car hire costs would be reduced because of faster movements and less delay.

Figure VI-2 shows schematically the operation proposed in this alternative. A preliminary estimate of the cost of the new connection at Vera and upgrading of the MILW line between Vera and 9th Avenue Tower and operational benefits are summarized in Table VI-3. Possible track retirements on the CNW route between the Cedar River and Beverly are included under Improvement Alternative III-1.

Table VI-3

ESTIMATED COSTS AND SAVINGS ASSOCIATED WITH CNW OPERATION
OVER MILW TRACKAGE BETWEEN VERA AND 9th AVENUE TOWERS

Capital Cost Item		Estimated Annual Cost
Construct Connection at Vera	$ 56,900	
Upgrade MILW trackage (CNW assumed to pay 50%)	112,900	
	$169,800	
Annual Expense @ 10%		$ 17,000
Operating Expense		
Trackage right charges @ $10/track mile		35,000
	TOTAL	$ 52,000

Savings Item	Costs Saved
Yard engines	$ 39,700
Car hire	7,500
Track maintenance (west side)	46,000
	$ 93,200
Rate of return on project	179.2%

NOTE: Benefits of possible through train operation between Boone and Cedar Rapids not quantified.

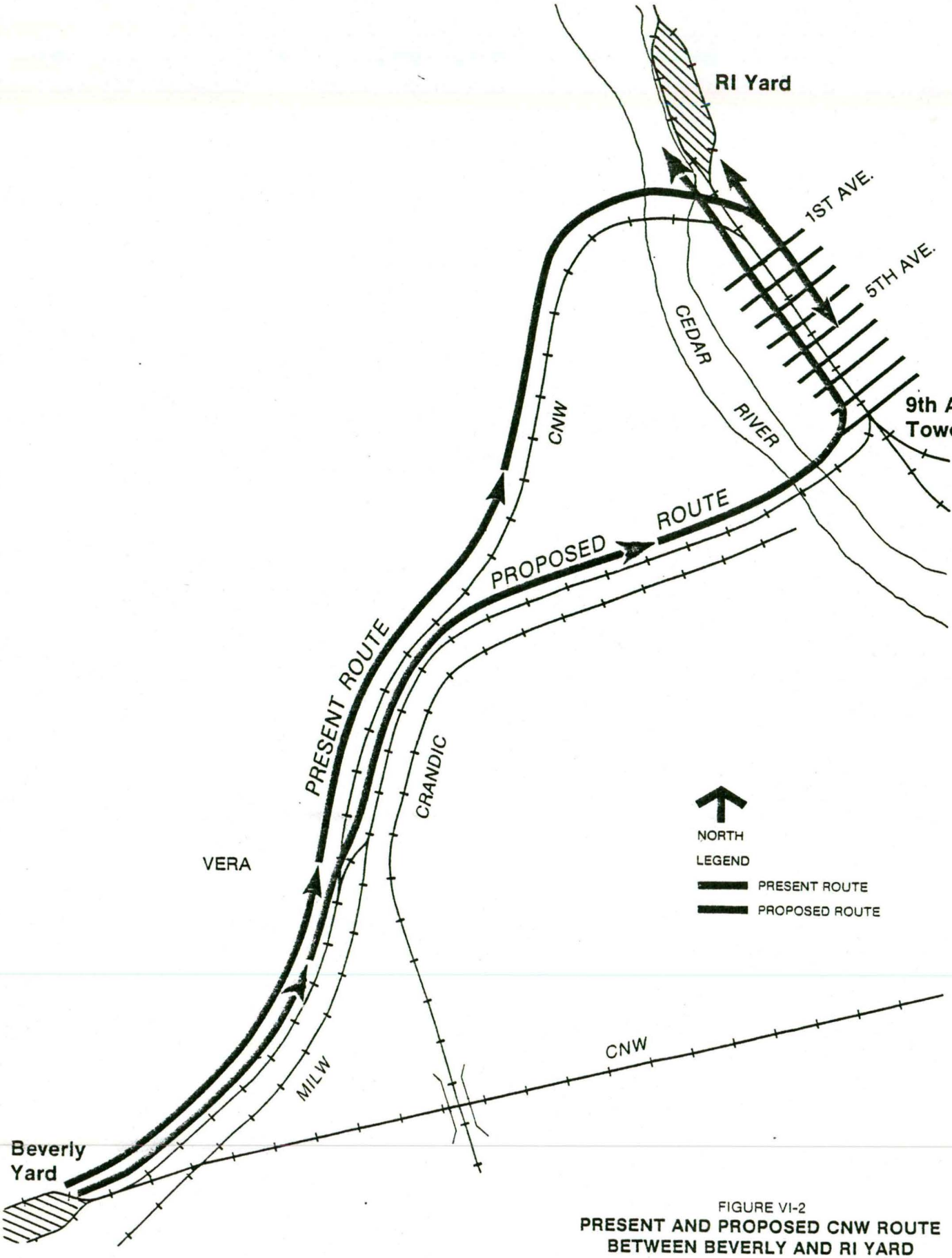


FIGURE VI-2
PRESENT AND PROPOSED CNW ROUTE BETWEEN BEVERLY AND RI YARD

Funding: The only capital cost involved would be the expense of building a new connection at Vera; the CNW would be expected to finance this. The increase in CNW operating costs due to track rental charges would be offset by the operating and capital benefits.

If part of the CNW route is abandoned and some grade crossings eliminated, there is a possibility that the cost of the connection could be funded with Federal grade crossing money.

General Evaluation: This alternative would afford the CNW a more efficient route between Beverly and the RI Yard and permit establishment of direct train service to and from Boone. Direct train service would reduce congestion at Beverly, eliminate some transfer moves and expedite the overall movement of traffic. Some track retirements on the existing CNW line west of the Cedar River should also be made possible.

*II-10: Construct a New Joint Yard

Discussion: Possible locations for construction of a new yard in Linn County are limited. The four most likely sites would be north or south of Cedar Rapids on the RI and west of Beverly or east of Otis on the CNW. All of these sites have two basic shortcomings. First, they are all a considerable distance from the traffic center of Cedar Rapids. Second, no site would be reasonably accessible to all railroads. In addition, a yard of adequate size would cost a minimum of $14 to $16 million.

The liquidations of the MILW and RI have made yard space available for surviving railroads in the center of Cedar Rapids. By rearrangement and upgrading of trackage in the downtown yards of the MILW and RI, adequate facilities can be provided for the ICG, CNW and CRANDIC (and possibly KCS). These locations would be operationally superior and the necessary trackwork could be done for a fraction of the cost of a new yard.

General Evaluation: A new joint yard was considered by the Cedar Rapids Terminal Railroad Study Group in 1976. At that time it was concluded that a joint yard had operational potential but the expense of construction was prohibitive. Today, the construction expense for a totally new yard is even higher and possible operating improvements lessened with the MILW and RI out of service. A new joint yard

cannot be justified on the basis of reduced expenses or service improvements. Additionally, there is no available financing. For these reasons, this alternative was eliminated in the early stages of the study.

PROBLEM III - POOR CONDITION OF YARDS AND CONNECTING TRACKAGE

III-I: Retire Unnecessary Trackage

Discussion: A survey of the Cedar Rapids Metropolitan Area indicates that there is a considerable amount of trackage that is no longer needed and should be retired. The discontinuance of operations by the RI and the MILW has made more trackage redundant. One of the first steps that should be taken to improve a terminal is to eliminate all unnecessary track. Excess trackage requires some maintenance expenditure but, more importantly, represents a source of material for upgrading other, necessary, trackage. Since the sale of scrap or property released following track retirements is a source of cash for the railroads, to a certain extent track retirements can provide both material and cash for upgrading other trackage that is essential.

Track retirements also may eliminate grade crossings (or reduce the number of tracks through a crossing), make grade separations unnecessary, minimize cost and maintenance of crossing signalization and make property available for uses more beneficial to the community.

The entire terminal area should be carefully examined to determine what trackage can be retired and what must be retained for efficient future operations.

Implementation: The actions required to implement this solution are:

- Each railroad makes a thorough survey of its property to determine what trackage can be retired and what must be upgraded
- Railroad estimates salvage costs and credits
- Railroad prepares a work program and schedule, and proceeds with the work.

Costs/Benefits:

Capital Investment: None.

Operating Expense: None. (Normally, salvage credits exceed the cost of retirement work.)

Operating and Capital Benefits:

- Reduced maintenance expense because of less trackage
- Possible one time cash benefit from sale of salvaged material or released property
- Reduced signal maintenance expense where trackage at signalized street crossings is removed.

Funding: For the most part, track retirements are profitable to railroads because reusable material is made available and scrap and released property can be sold. For these reasons, no funding should be required for this action.

Major Potential Retirements: A number of potential retirements have been identified and preliminary estimates made of costs, benefits and funding possibilities. Table VI-4 summarizes each major area and Figure VI-3 identifies the locations involved. There are substantial retirements possible in the 4th Street corridor; these are discussed in connection with Problem IX as part of the overall plan for this area.

General Evaluation: The elimination of redundant trackage will reduce maintenance expense, provide reusable material, generate cash from scrap sales and permit property to be used for more beneficial community and industrial purposes. The specific retirements already noted, as well as others that may be identified, should be considered and progressed by the railroad involved.

III-2: Railroads Rehabilitate Terminal Trackage

Discussion: The condition of yards and connecting trackage within the study area ranges from fairly good to below FRA Class 1 standards. For a number of years there has been little, if any, systematic rehabilitation; maintenance generally has been limited to the minimum needed to keep trackage in service. To provide for safe, efficient movement of traffic without disruptions due to derailments, track should be brought to at least FRA Class 1 standards and maintained at these standards. Each railroad should institute a rehabilitation program for yards and connecting trackage once all unnecessary trackage is retired.

Table VI-4

MAJOR AREAS WITH TRACK RETIREMENT POTENTIAL

Railroad	Location	Feet of Track	Number of Turnouts	Number of Grade Crossings	Number of Railroad Crossings	Net Cost	Annual Maintenance Savings	Notes
CNW	Beverly to Transfer Yard	17,323	18	26	0	$96,100	$46,000	Requires CNW acquisition of part or all of the RI yard.
CNW	Transfer Yard	6,565	15	0	0	17,650	6,500	
MILW	North end of MILW yard to National Oats	6,040	4	4	0	3,000	8,100	The connection from the ICG National Oats lead to the MILW would have to be upgraded.
MILW	Amana line from Iowa Manufacturing to Menard Lumber Company	14,700	4	8	0	2,900cr	19,800	Connection from ICG to MILW at Louisa required.
MILW	Marion Yard area	32,685	29	25	0	51,000cr	52,100	
MILW	Crossings at Beverly including a portion of the main line	3,000	0	2	2	10,200	23,000	See discussion of Improvement Alternative II-8 for complete details.
RI	Penick and Ford lead	6,000	1	2	0	7,000	6,100	
ICG-MILW-RI	Downtown trackage between 4th Street and Cedar River	16,245	17	27	1	52,000	12,800	Several industries would have to be relocated.
CNW-RI	4th Street Corridor	3,735	5	13	4	18,300cr	16,600	See Improvement Alternative IX-1 for complete details.

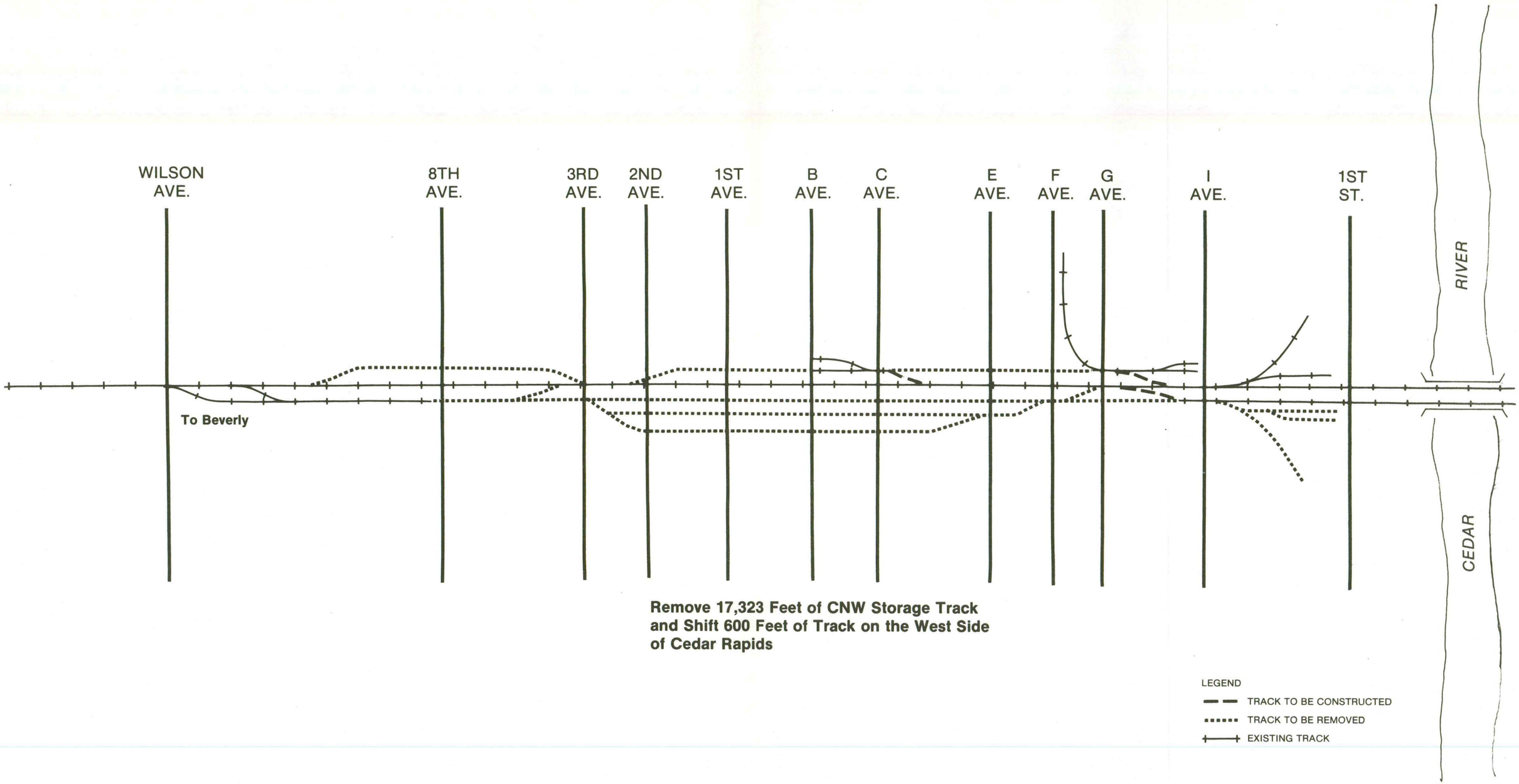


FIGURE VI-3(a)
PROPOSED TRACK RETIREMENTS
CNW - BEVERLY TO TRANSFER YARD

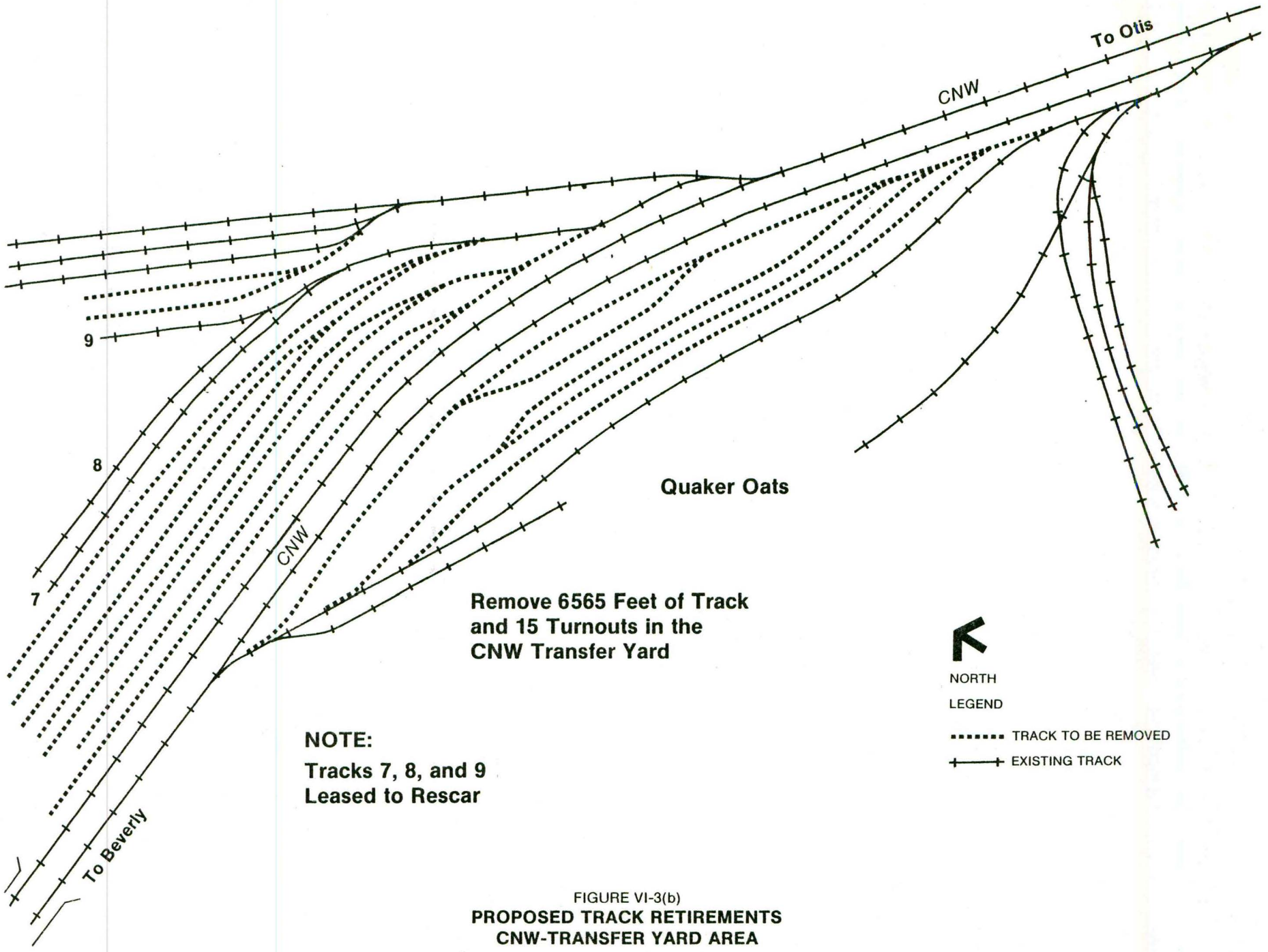


FIGURE VI-3(b)
PROPOSED TRACK RETIREMENTS
CNW-TRANSFER YARD AREA

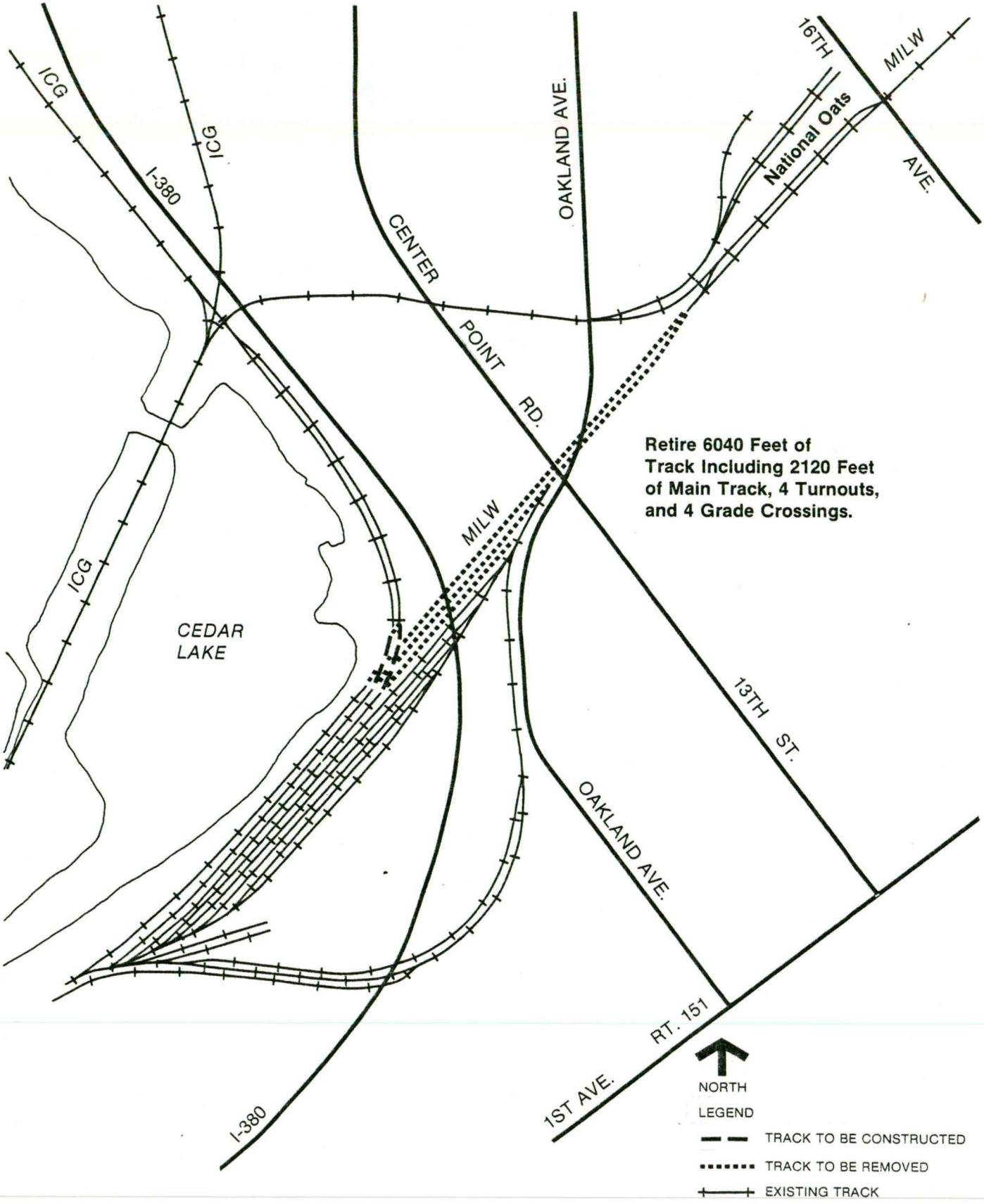


FIGURE VI-3(c)
PROPOSED TRACK RETIREMENTS
MILW-NORTH END OF YARD TO NATIONAL OATS

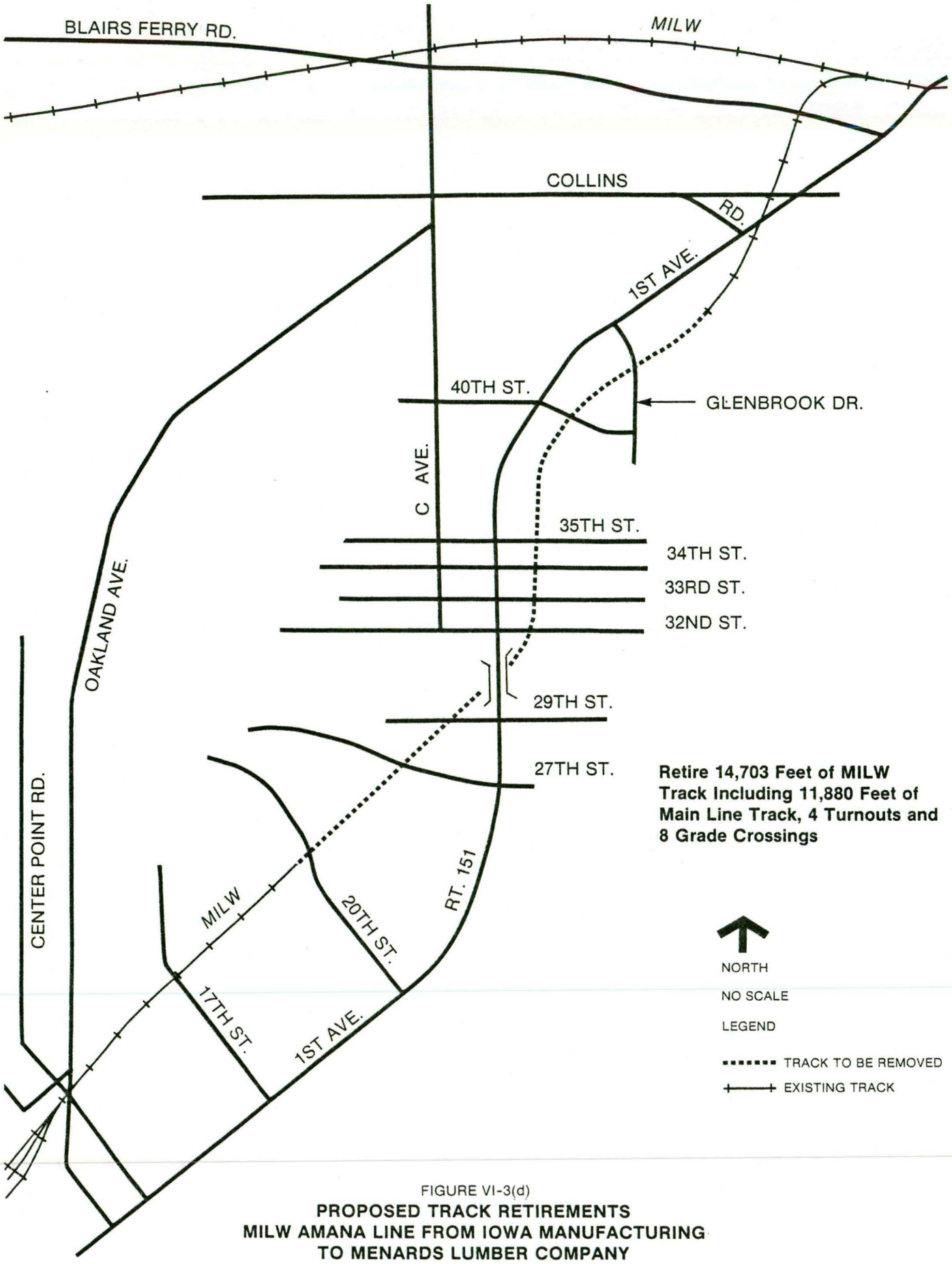


FIGURE VI-3(d)

PROPOSED TRACK RETIREMENTS
MILW AMANA LINE FROM IOWA MANUFACTURING
TO MENARDS LUMBER COMPANY

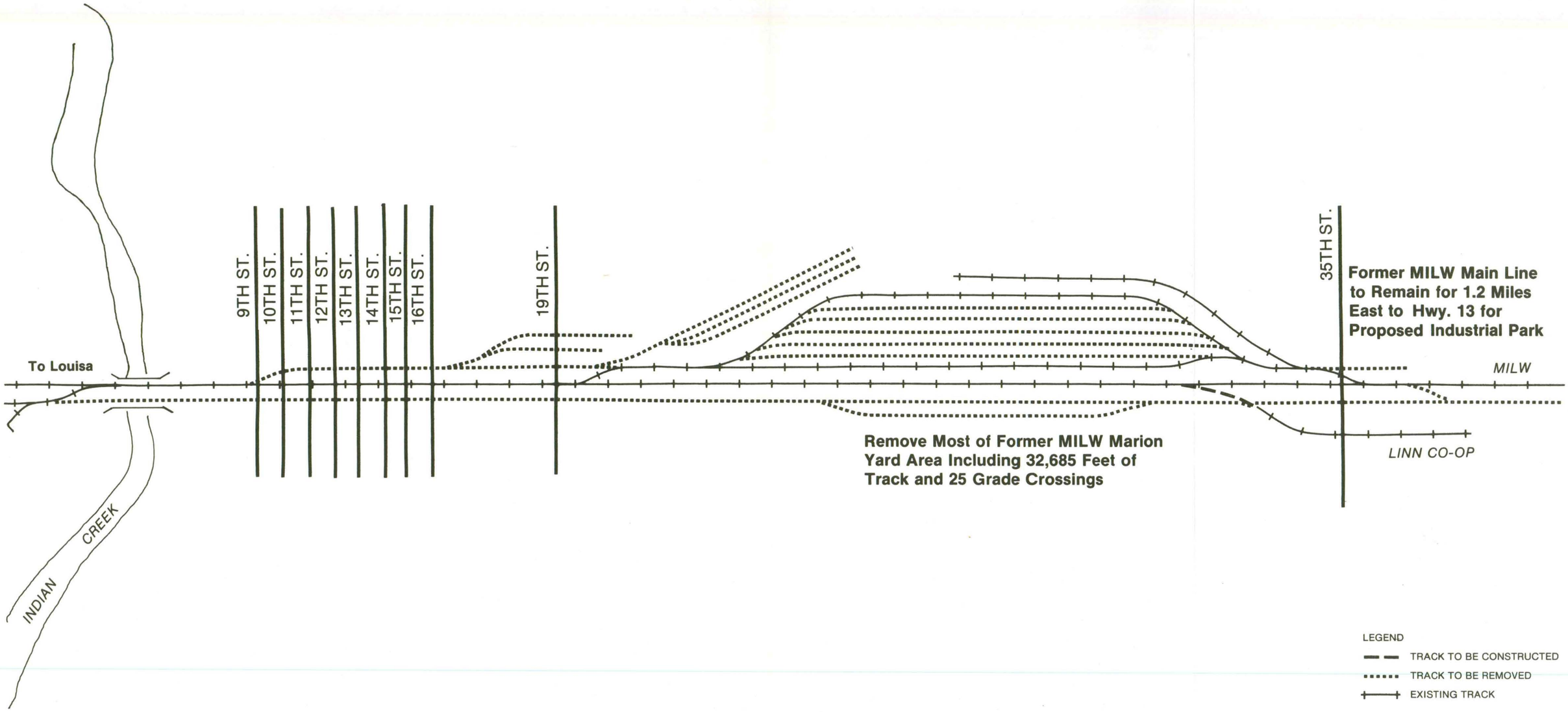
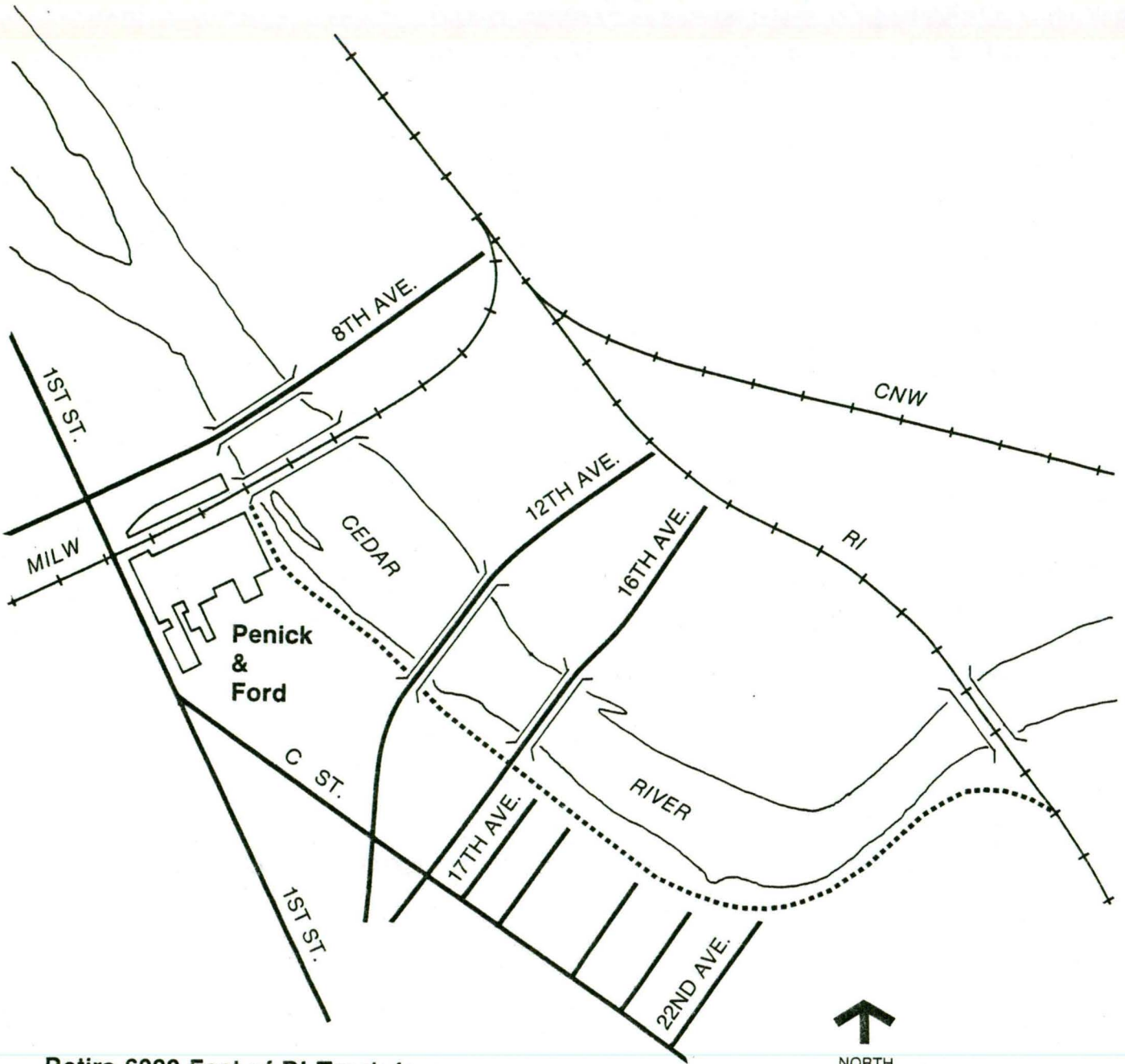


FIGURE VI-3(e)
PROPOSED TRACK RETIREMENTS
MILW - MARION YARD AREA



Retire 6000 Feet of RI Track from the Main Line to the Penick & Ford Plant

FIGURE VI-3(f)
PROPOSED TRACK RETIREMENTS
RI PENICK & FORD LEAD

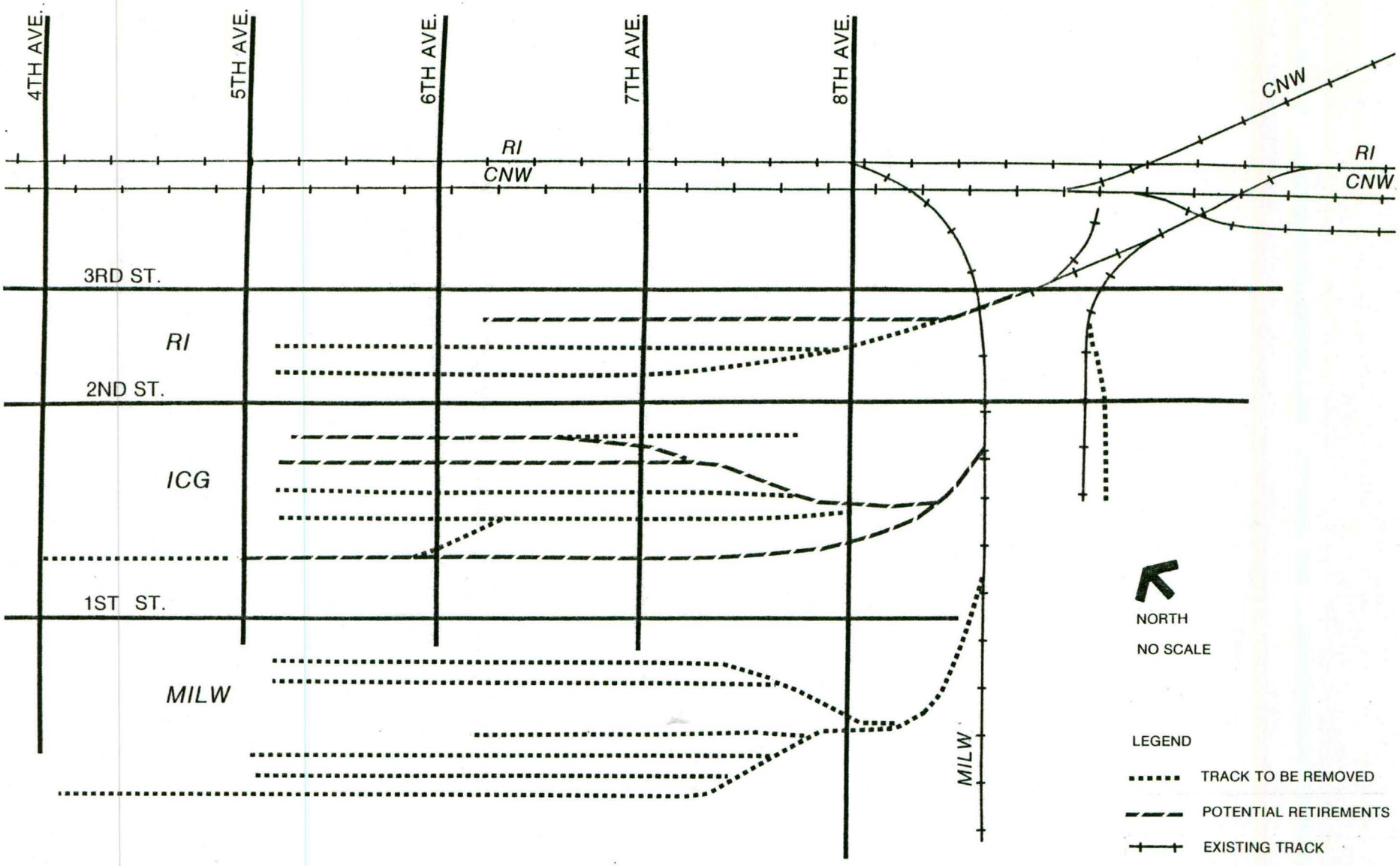


FIGURE VI-3(g)

PROPOSED TRACK RETIREMENTS
MILW - RI - ICG DOWNTOWN TRACKAGE

Implementation: The actions required to implement this solution are:

- Following a decision as to what trackage can be retired, each railroad surveys all essential yards and lines and determines what rehabilitation is required
- A work program and schedule are developed that are realistic considering the availability of manpower, material and funds.

Costs/Benefits:

Capital Investment:

- Partial costs of track upgrading.

Operating Expense:

- Partial costs of track upgrading
- Normal maintenance of trackage.

Operating and Capital Benefits:

- Reduced maintenance expense following major upgrading
- Less derailment expense
- Possible reduction in yard engine time because of increased permissible speeds in certain areas.

Funding: Possible sources of funding are:

- Railroads finance internally or with money available through the 4R Act
- Material salvaged from retirements may be used to reduce cost of rehabilitation
- Funds may be available from State assistance programs
- Where grade crossings are involved, Federal crossing improvement funds may be available and/or the City might participate.

General Evaluation: Assuming that railroads are to stay in business, trackage cannot be allowed to deteriorate beyond a certain level. Some trackage has now reached this minimum level. A systematic terminal rehabilitation and maintenance program does not, perhaps, get the attention from railroad management that main line upgrading does but it is nearly as important in the overall performance and profitability of the company.

**III-3: Industries Rehabilitate and Maintain Their Own In-plant Trackage

Discussion: With one exception, the railroads serving the Cedar Rapids area have not adequately maintained industrial trackage that they own and for which they are responsible. A chronic shortage of funds has resulted in deferral of low priority work (such as maintenance of industrial trackage). In recent years the trend has been for industries to assume ownership and/or maintenance responsiblity for trackage within their plants. To the extent that industries want and need rail service, they should assume this obligation since there is little likelihood the railroads will be able to afford the expense of adequate maintenance in the foreseeable future.

Implementation: The actions required to implement this solution are:

- Each industry decides if continued rail service will justify the expense of maintaining in-plant trackage
- Each industry makes the necessary arrangements for upgrading and periodic maintenance of in-plant trackage.

Costs/Benefits:

Capital Investment: In most cases, none.

Operating Expense:

- Cost of periodic track maintenance.

Operating and Capital Benefits:

- Reduced derailment expense and costs of service interruptions.

Funding: No capital costs are involved but industries would absorb future track maintenance costs.

General Evaluation: Adequate maintenance of in-plant trackage is necessary for efficient and uninterrupted service as well as safety. Barring a dramatic improvement in the railroads' financial position, maintenance of industrial trackage will continue to be neglected. Industries that need continued rail service should accept the expense of track maintenance as part of overall transportation costs.

PROBLEM IV - DELAYS ASSOCIATED WITH INTERCHANGE MOVEMENTS

† IV-1: Establish Direct Interchange Between CRANDIC and ICG

Discussion: At present there is no direct interchange between the CRANDIC and ICG; traffic between these two carriers is handled by the MILW. A review of records indicates that the intermediate movement on the MILW delays cars 10 to 35 hours. Also, an intermediate switch charge of $47.00 per load is assessed. When the MILW ceases operation, a direct interchange should be established. The interchange point could be in the MILW yard or the CRANDIC could deliver and pull from the ICG yard. No physical plant changes are required for this plan, although some track upgrading should probably be done.

Implementation: The actions required to implement this solution are:

- CRANDIC obtains operating rights on the MILW and RI between Uptown Yard and the MILW and ICG yard. Alternatively, CRANDIC buys the MILW portion of the route
- CRANDIC and ICG establish a new interchange arrangement and division of costs.

Costs/Benefits:

Capital Investment:

- Purchase price of MILW trackage (if CRANDIC and/or ICG buys trackage)
- Upgrading the trackage.

Operating Expense:

- Trackage rights charges
- Maintenance of purchased trackage
- Minimal additional yard engine time for direct interchange.

Operating and Capital Savings:

- ICG and CRANDIC would save intermediate switch charge now paid to MILW

- ICG and CRANDIC would save car hire costs by eliminating delays to traffic

Funding: The CRANDIC and ICG should finance the purchase of necessary MILW trackage if this course of action is taken. With an operating rights arrangement, no cash outlay would be required. In either case, savings on intermediate switch charges and car hire now incurred would offset these costs.

General Evaluation: This alternative is now in operation on an interim basis and will become permanent if negotiations between the CRANDIC, ICG and the Trustees of the MILW and RI for property purchase are successful.

* IV-2: Establish Direct Interchange Between CRANDIC and RI

Discussion: Interchange traffic between the CRANDIC and RI is now handled by the MILW. A car movement check shows that this intermediate move delays traffic from 8 to 25 hours. In addition, there is a $47 per load intermediate switch charge for this service. When the MILW ceases operations in the Cedar Rapids area, a direct CRANDIC-RI interchange should be established. The most efficient operation appears to be for the CRANDIC to move cars both ways over RI and MILW trackage and for the interchange point to be the RI yard. No physical plant changes would be needed but some track upgrading would be desireable.

Implementation: The actions required to implement this solution are:

- CRANDIC obtains operating rights over the MILW or purchases this line
- CRANDIC and RI agree to a new interchange arrangement under which CRANDIC would get the necessary trackage rights and the division of cost would be established.

Costs/Benefits:

Capital Investment:

- Purchase price of MILW trackage (if CRANDIC buys)
- Upgrading of track.

Operating Expense:

- Trackage rights charges
- Maintenance of purchased trackage
- Additional yard engine time required to make direct interchanges.

Operating and Capital Benefits:

- RI and CRANDIC would save intermediate switch charges now paid to MILW
- RI and CRANDIC would reduce car hire costs by eliminating delays to traffic now incurred.

Funding: The CRANDIC would finance the purchase of required MILW trackage if this alternative is followed. Otherwise, if trackage rights are obtained, no initial investment would be required. In either case, the elimination of intermediate switch charges would offset the costs for purchase of property, trackage rights or increased yard engine expense.

General Evaluation: This alternative is no longer necessary because the RI has terminated all operations in the Cedar Rapids area. If, however, the KCS should become the operator of the former RI line through Cedar Rapids, a direct interchange between the CRANDIC and KCS should be considered.

* IV-3: Establish Pool Interchange Yard

Discussion: One method of speeding up interchange movements would be to establish a common interchange location where all railroads would deliver and pull. Since the MILW has now ceased operations in the Cedar Rapids area, the MILW yard could be used for this purpose. The advantage of a pool yard would be that traffic for two or more railroads could be delivered in one trip and, conversely, cars from two or more pulled. The disadvantage is that, where there is now a reasonably efficient direct interchange between two carriers, an extra transfer move would result from a pool yard arrangement.

Implementation: The actions required to implement this solution are:

- All railroads agree to a pool interchange yard arrangement and work out an equitable division of costs

- The participants purchase the MILW yard for this purpose.

Costs/Benefits:

Capital Investment:

- Purchase of MILW yard

Operating Expense:

- Trackage rights charges over foreign line tracks to MILW yard as required
- Maintenance of pool yard
- Possible additional yard engine time
- Possible increase in car hire costs

Operating and Capital Savings:

- Elimination of intermediate switch charges
- Possible savings in yard engine time
- Possible decrease in car hire costs.

Funding: The participating railroads would finance purchase of the MILW yard for use as a pool yard. Overall, it is doubtful if there would be sufficient yard engine or car hire savings to offset the capital investment.

General Evaluation: Because two railroads, the MILW and RI, no longer operate in Cedar Rapids and because there are now direct interchanges between the remaining three carriers, there would be no advantage in the establishment of a pool interchange yard. This alternative was therefore eliminated from consideration.

IV-4: Better Coordination of Interchange Movements Between Railroads

Discussion: Faster overall movement of traffic can result when interchanges are made on a regular basis, with established cut-off times for delivery to industries or dispatchment in outbound trains. For example, the CNW would guarantee that all outbound traffic received from the CRANDIC by a

designated time would depart on certain trains. Conversely, the CRANDIC might make a commitment that all cars received from the CNW by a specified time would be spotted at the consignee within a certain number of hours. Scheduled interchanges assist in creating a systematic and disciplined operation. Each railroad knows what it is expected to do and customers can readily ascertain the responsibility for service failures. This is entirely an operating arrangement and can be implemented by mutual agreement among the railroads.

Implementation: The action required to implement this solution is:

- All carriers participate in the development of realistic scheduling of interchange.

Costs/Benefits:

Capital Investment: None.

Operating Expense: Minimal, if any.

Operating and Capital Benefits:

- Reduced car hire cost because of faster movement of traffic
- Increased revenue if better service generates more traffic
- Reduced shipping costs to industries to the extent that improved rail reliability precludes use of alternate modes of transportation.

Funding: No capital investment is required and operating expense, if any, would be minimal.

General Evaluation: For most traffic moving in and out of the Linn County area, railroads are the low cost mode of transportation. However, the unreliability of service ranks next to the shortage of cars as the major reason traffic often moves by truck rather than rail. Railroads have made substantial improvements in transit time and reliability of service in selected movements; unit grain and coal trains and piggy-back trains being the most common examples. Unfortunately, little has been little done to program the

movement of general freight.[1] Improvements in expediting cars in and out of Cedar would not solve the whole problem but would certainly help. Coordination of interchange activities would be a significant step in the right direction.

(1) Automobile industry traffic is an exception. Nearly all auto parts and finished automobiles move on schedules agreed to by manufacturers and the railroads. Railroads have generally provided acceptable levels of performance. To an extent, this indicates that railroads can, when committed, provide service within reasonable transit timeframes.

PROBLEM V - LACK OF DISCIPLINED PROGRAM FOR SWITCHING, INTERCHANGE AND ROAD MOVEMENTS

V-1: Railroads Provide Schedules for Movement of Traffic

Discussion: As a starting point in developing systematic and reliable rail service, each railroad should establish schedules for the movement of traffic to and from major gateways and local points. When schedules exist, railroad personnel know their company is committed to a certain level of service which can and should be monitored. Also, customers not only have specified transit times for shipment but can readily determine whether or not the railroads are meeting the established goals.

Movement schedules should be as fast as possible but must be realistic. While it is probably impractical to schedule traffic from small or infrequent shippers, schedules should be provided for all major shippers. However, as movement of traffic of major industries becomes more systematic and disciplined, the traffic of smaller shippers should benefit as well.

Implementation: The actions required to implement this solution are:

- Each railroad develops schedules for outbound traffic from major shippers. These schedules provide that, based on a certain cut-off time for shipments or receipt of interchange cars from other carriers, shipments depart from Cedar Rapids on specified trains

- For inbound traffic, each railroad establishes schedules that guarantee availability of cars to industries or interchange to other carriers within a certain number of hours following arrival

- Schedules are circulated to railroad operating personnel so that all involved are fully aware of the goals.

Costs/Benefits:

Capital Investment: None.

Operating Expense:

- A relatively minor cost for personnel to develop and publish schedules

Operating and Capital Benefits:

- To the extent car movement is improved, car hire costs will decrease
- Rail movement will become more attractive to shippers as a result of scheduled service and demonstrated ability of railroads to perform.

Funding: No capital costs are involved; preparation of schedules would require only a modest amount of labor expense.

General Evaluation: Establishing schedules for traffic does not cause cars to move faster; this action is simply a commitment by a railroad to provide a certain level of service to customers. Car movement is improved because railroad employees at all levels have the physical means and personal dedication necessary to deliver as promised. Schedules are a tool to build discipline into the system and are useful to shippers as a guide to transit times that may be expected. Schedules are important to both shippers and railroads as a yardstick by which to measure actual performance.

This alternative is relatively simple and inexpensive to implement but could result in sizable improvements in the movement of traffic.

A sample of the type of schedule proposed is shown in Table VI-5.

V-2: Improve Blocking of Traffic and Through Train Operation

Discussion: To provide the fastest and most efficient movement of traffic, trains must be blocked to minimize enroute handling. Schedules of assigned trains are normally designed to move the most cars as rapidly as possible with the least handling. Nearly all railroads develop blocking and scheduling patterns to attain these goals. However, over a period of time, these patterns often become obsolete because of changes in traffic volume, service requirements or other factors. With the elimination of RI and MILW operations in the Cedar Rapids area, there will be substantial

Table VI-5

SAMPLE SCHEDULES

Outbound

1. Single Line

Shipper	Quaker Oats
Routing	CNW
Destination	Milwaukee, WI

Movement:

Cars pulled by -		8:00 P.M.	Day 0
Depart Cedar Rapids	Train #254	11:45 A.M.	1
Arrive Proviso	Train #254	12:30 A.M.	2
Depart Proviso	Train #289	7:45 A.M.	2
Arrive Milwaukee	Train #289	3:00 P.M.	2
Spotted at Consignee by -		11:00 A.M.	3

2. Interchanged at Cedar Rapids

Shipper	Corn Sweeteners
Routing	CRANDIC-ICG
Destination	Freeport, IL

Movement:

Cars pulled by -		3:00 P.M.	Day 0
Interchanged to ICG by -		7:00 A.M.	1
Depart Cedar Rapids	Train #478	4:30 P.M.	1
Arrive Manchester	Train #478	6:30 P.M.	1
Depart Manchester	Train # 78	12:01 A.M.	2
Arrive Freeport	Train # 78	4:00 A.M.	2
Spotted at Consignee by -		5:00 P.M.	2

3. Interchanged at Enroute Location

Shipper	General Mills
Routing	CNW-Chicago-Conrail-Buffalo, N.Y.

Movement:

Cars pulled by -		12:01 A.M.	Day 0
Depart Cedar Rapids	Train #254	11:45 A.M.	0
Arrive Chicago	Train #254	12:30 A.M.	1
Interchanged to Conrail by -		11:00 P.M.	1

Table VI-5 (Concluded)

SAMPLE SCHEDULES

Inbound

1. Consignee Served by Road Haul Carrier

Consignee	Cargill		
Inbound Carrier	CNW		
Movement:			
Arrive Cedar Rapids	Train #259	9:45 A.M.	Day 0
Spotted at Cargill by -		5:00 P.M.	1

2. Interchanged at Cedar Rapids

Consignee	National Oats		
Inbound Carrier	CNW		
Movement:			
Arrive Cedar Rapids	Train #260	9:00 A.M.	Day 0
Interchanged to ICG by -		7:00 A.M.	1
Spotted at National Oats by -		11:00 P.M.	1

changes in the traffic handled by the remaining railroads. Each carrier should make a thorough analysis of traffic and determine what changes in blocking and/or train operation are needed to provide optimum service.

Implementation: The actions required to implement this solution are:

- Each railroad examines traffic flow to determine volumes, routing, and any inadequacies in present train scheduling and blocking
- Where problems are noted (for example, cars not being moved because scheduled trains are consistently overloaded), railroads change or add service as required
- Each railroad commits adequate power to trains serving Cedar Rapids to ensure scheduled movement of traffic
- Each railroad periodically on a systematic basis reviews scheduling and blocking so that service can be adjusted to match changes in traffic patterns.

Costs/Benefits:

Capital Investment: None.

Operating Expense:

- Initially, limited labor costs to analyze car movement and develop improved blocking and scheduling
- A possible increase in operating expense to the extent that additional train service is added.

Operating and Capital Benefits:

- Improved blocking and train scheduling may reduce switching at terminals, thus reducing yard engine expense
- More appropriate blocking and scheduling may reduce terminal congestion, thus reducing car hire and yard engine expense

- Faster overall movement of traffic will reduce car hire costs

- Improved service may result in increased traffic and revenue.

Funding: No capital costs are involved and initial expense would be limited to labor costs required to make traffic studies and revise blocking and scheduling. The railroads should absorb these costs.

General Evaluation: With the major changes in traffic flow that have resulted from the end of MILW and RI service in the Cedar Rapids area, it is necessary that the surviving road haul carriers analyze their operations and make adjustments as required. This is already being done; for example, the CNW has established daily service between Proviso (Chicago) and Cedar Rapids, and the ICG has assigned more units and is running frequent extra trains in and out of Cedar Rapids. This effort should be continued.

* V-3: Establish a Coordinated Operating Control System for the Entire Terminal Area

Discussion: One method to improve the movement of traffic within a terminal area is to establish a centralized control system. A joint terminal dispatcher or general yardmaster can be given authority to govern all terminal movements, particularly interchanges and operations over trackage used by more than one railroad. With centralized control, more efficient operations are possible, resulting in faster transit time and reductions in delays caused by conflicting movements. To maximize benefits, a terminal operating plan should be developed with scheduled movements for interchanges, connections to in- and outbound trains and switching of industries. To make such a plan work, cooperation between railroads is critical.

Implementation: The actions required to implement this solution are:

- The railroads agree that centralized control would be beneficial and cost effective

- A plan is developed which would include manning requirements, headquarters location, communications, division of costs and operating procedures

- The plan is put in operation for a trial period
- If the trial operation is successful, a centralized control system is put in effect on a permanent basis.

Costs/Benefits:

Capital Investment:

- Costs to set up an office and provide communications.

Operating Expense:

- Minor labor cost to develop the system
- Cost of manning the control center.

Operating and Capital Benefits:

- Reduced yard engine expense because a better coordinated overall operation would result in fewer delays
- Reduced car hire expense because of faster movement of traffic
- Possible increase in traffic and revenue with improved service.

Funding: Capital costs would be minor; the major expense would be labor costs for staffing the control center. This plan would be feasible only if the possible savings exceeded operating expense or, as a result of improved service, additional traffic and revenues were generated.

General Evaluation: With only three railroads remaining in the Cedar Rapids area, operating conflicts between carriers should be reduced considerably. It is unlikely that a centralized control system imposing another layer of management would be warranted. Reasonable cooperation between the railroads should provide many of the benefits possible with a formal control system.

V-4: Establish a Terminal Steering Committee

Discussion: To facilitate well coordinated terminal operations, a committee made up of local railroad supervisory personnel

should be established. To be effective, this committee should meet regularly to discuss mutual problems, changes in traffic patterns, and any other appropriate subjects relating to overall terminal operations. The members of the committee should be able to make commitments on the part of their respective companies, or at least be in a position to make recommendation to higher levels of management. The committee could be supplemented on an ad hoc basis by representatives of industries and the community at large.

Implementation: The actions required to implement this solution are:

- Railroads agree that such a program would be mutually advantageous
- Railroads establish meeting format and frequency, and designate representatives
- Railroads establish the purpose and specific goals of the steering committee.

Costs/Benefits:

Capital Investments: None.

Operating Expense:

- Minimal since participants would probably be salaried personnel.

Operating and Capital Benefits:

- Difficult to ascertain but as the program proceeds, tangible results should be evident.

Funding: None required.

General Evaluation: A valid criticism of this proposal is that there already is an organization in existence that, in general, is concerned with the same problems as would be a terminal steering committee. This organization, in various forms and under various names, has, in fact, been in sporadic operation for many years. Accomplishments have likewise been sporadic and sometimes short-lived.

What is needed is a small, active group of railroad people that have defined goals and the authority to make decisions

Operating Expense:

- Labor expense of joint personnel
- Costs associated with utilities, maintenance of structures, provision of communications and data processing equipment, etc.

Operating and Capital Benefits:

- Labor savings resulting from consolidation
- Possible reduction in number of offices required
- Possible avoidance of costs of space now rented or leased
- Consolidation may release space and permit sale of structures or property.

Funding: Major capital costs would be for office space, communications, and data processing equipment. These costs would be offset to some extent by the elimination of duplicate facilities. Other than operational improvements that should result, the largest benefit of a consolidation would be labor savings resulting from elimination of duplicative functions. These savings should be sufficient to make the project self-supporting.

General Evaluation: The departure of the MILW and RI from the Cedar Rapids metropolitan area has resulted in yard office and agency functions being consolidated within the organizations of the three surviving carriers. Reductions in expense are already being realized and shippers have benefitted to the extent that they deal with fewer carriers and people. Any joint efforts on the part of the railroads to further consolidate agencies and/or yard offices should be done quickly before patterns become firmly established. If fast action is not taken, it is very unlikely that any joint arrangement will be forthcoming in spite of the cost savings or operational benefits.

* V-6: Establish a Terminal Railroad

Discussion: The possible improvements in car movement that a Terminal Railroad could offer were suggested in the Report of the Cedar Rapids Terminal Railroad Study Group in 1976. A terminal railroad could offer certain advantages, principally:

- Crew savings, since with one railroad serving all industries, more efficient use of yard engines should be possible

- Clerical and maintenance savings since such activities could be centralized to a considerable extent

- Better coordination of intraterminal car movement with all operations controlled by one railroad.

On the other hand, the disadvantages of a terminal railroad would be:

- Every in- and outbound car would have to be interchanged in the terminal

- The process of establishing a terminal railroad and working out divisions of ownership and operating expenses would be extremely difficult

- Railroads are reluctant for both operating and competitive reasons to become involved in new terminal railroad arrangements

- Labor agreements would have to be negotiated and it is highly unlikely that the unions involved would agree to the changes necessary to permit an efficient terminal railroad operation.

Since some of the operational advantages can be achieved without actually establishing a terminal railroad, it is our opinion that this approach is not feasible, particularly considering the negative aspects. In addition, a considerable degree of consolidation will result as RI and MILW operations are absorbed by the three remaining railroads.

PROBLEM VI - LACK OF OR INAPPROPRIATE LOCATION OF TRACK SCALES AND OTHER SUPPORT FACILITIES

*VI-1: CNW Installs Track Scale at Beverly

Discussion: The CNW's only track scale is at East Yard and all cars that require weighing must be moved to and from that location. A review of car records indicates that weighers incur at least 24 hours additional delay because of this move. If a scale were installed at Beverly, this delay could be avoided. At various times in the past the CNW has considered installing a scale but, for economic reasons, has never done so.

Implementation: The actions required to implement this solution are:

- CNW makes a determination that the installation of a scale is necessary and the cost justified by savings
- CNW installs scale.

Costs/Benefits:

Capital Investment:

- Cost of scale installation: from $60,000 to $200,000, depending on the type.

Operating Expense: Scale maintenance.

Operating and Capital Benefits:

- Reduced yard engine time because it would no longer be necessary to move cars to East Yard for weighing
- Reduced car hire costs because delays associated with movement to East Yard would be eliminated. Based on an average of 15 cars weighed per day at $8.00 car hire cost per day and a minimum of 24 hours saved, annual savings from this item alone would be approximately $43,800.

Funding: The CNW should finance the installation of the scale; preliminary calculations indicate that the cost could be recovered by the operating savings noted above in three to five years.

General Evaluation: This alternative is no longer necessary; the CNW has used the RI scale since taking over operation of RI property in Cedar Rapids and the operating benefits are being realized.

†VI-2 Joint Use of Scale at MILW Yard

Discussion: Both the CNW and ICG could save yard engine and car time if they had the use of the scale at the MILW yard. The CNW would avoid taking cars to East Yard and the ICG would no longer have to move cars to their City Yard for weighing. This would require no capital investment; it would require only the negotiation of an operating agreement with whatever railroad acquires the MILW Yard.

Implementation: The action required to implement this solution is:

. CNW and/or ICG negotiate with the eventual owner of the MILW for use of the scale.

Costs/Benefits:

Capital Investment: None.

Operating Expense:

. Rental for access to and use of scale.

Operating and Capital Benefits:

. Reduced yard engine time

. Reduced car hire expense

. Avoidance by CNW of the cost of installing a scale at Beverly

. Avoidance by ICG of the cost of relocating a scale if City Yard is abandoned.

Funding: No capital investment would be required.

General Evaluation: This alternative is already partially in effect; the ICG is using the MILW scale. If the CNW continues to operate the RI property, this road will not need the use of the MILW scale. If the KCS should take over the RI yard and the CNW is deprived of the use of the scale there, provision should be made for CNW use of the MILW scale.

PROBLEM VII - TRACKAGE AT INDUSTRIES INADEQUATE OR IN POOR CONDITION

**VII-1 Expand or Revise Industry Trackage to Permit More Efficient Operations

Discussion: To provide for efficient operations, the trackage at industrial locations must be able to accommodate the types of cars normally used, be laid out in a configuration that minimizes switching, and be in reasonably good condition. The trackage at some Cedar Rapids industries does not meet these criteria. For example, sharp curvature at some locations prevents the loading of 60-foot cars that might otherwise be utilized. Also, sharp curvature and deteriorated track conditions are major causes of derailments which disrupt both railroad and industry operations. All industrial locations should be surveyed to determine what improvements can be made.

Implementation: The actions required to implement this solution are:

- Each industry, in conjunction with the serving railroad, examines in-plant trackage to determine adequacy of layout and condition
- Plans are developed for upgrading, revising or adding trackage as is necessary
- Cost estimates are evaluated to determine what improvements are economically justified
- A work program and schedule are established and costs are allocated for improvements.

Costs/Benefits:

Capital Investment:

- Costs associated with major track revisions, additions, and some upgrading expense.

Operating Expense:

- Track upgrading.

Operating and Capital Benefits:

- Reduced yard engine time as a result of more efficient switching arrangements
- Less expense to industries for loading or unloading operations
- Reduced derailment-related expense
- Reduced track maintenance costs following major upgrading
- Possible improved car utilization where track changes will permit use of certain types or sizes now precluded.

Funding: While serving railroads might participate in financing improvements, as a practical matter the industries involved will probably have to be the major source of funds. Each industrial location should be examined on a case-by-case basis and the costs negotiated between the industry and the serving railroad.

General Evaluation: Trackage at industrial locations is frequently constrained by structures and other plant facilities that make revision or expansion difficult and costly. In spite of this, track improvement programs sometimes offer substantial operating benefits to both railroads and shippers. This is an ideal time to examine the possibilities of track revisions because, with the changes that are taking place following termination of service by the MILW and RI, there is property adjacent to some industries that could be made available. Each individual shipper should investigate its rail facilities and the costs and benefits associated with trackage improvements.

**VII-2: Revise Loading and Unloading Facilities to Accommodate Modern Cars

Discussion: Many older industrial complexes have loading and unloading facilities designed to handle rail equipment in service when the plant was built. Until the 1950's, 40-foot box cars were universally used for both packaged and bulk commodities. Today, however, 50- and 60-foot boxcars and covered hoppers predominate. Frequently, these types of rolling stock cannot be accommodated by existing plant facilities. For example, excessive curvature may prohibit

the use of cars longer than 40 feet or loading docks may be built for 40-foot cars. The result is that either the use of some cars is excluded entirely or certain equipment can be utilized only by sacrificing operating efficiency. If loading and unloading facilities are revised, modern cars can be used without restriction and both railroads and industries may improve operating efficiency.

Implementation: The actions required to implement this solution are:

- At each industrial location where car restrictions currently exist, the industry and serving railroad determine what modifications to facilities are required to permit use of modern equipment
- Costs are estimated and evaluated to determine if operational benefits or reduction of expenses justify such expenditure
- A work program and schedule are established and selected modifications are executed.

Costs/Benefits:

Capital Investment:

- Costs of revisions or additions to facilities.

Operating Expense: None.

Operating and Capital Benefits:

- Possible reduced switching resulting from more efficient layout of facilities
- Possible lower cost to industries for loading and unloading operations
- Better utilization of cars and availability of more cars if types presently restricted can be used.

Funding: This type of facility improvement would normally be paid for by the industry involved.

General Evaluation: Improvements in loading and unloading facilities are projects that each industry must evaluate individually. Costs and benefits will vary widely. These types of projects should be considered, however.

PROBLEM VIII - CAR DELAYS CAUSED BY INDUSTRY OPERATING PRACTICES

** VIII-1: Industries Unload Cars Promptly and Bill Outbound Cars When Loaded or Ordered Out of Plant

Discussion: Inbound cars that are not unloaded promptly on arrival or outbound cars held for billing after being loaded create two problems: first, the cars take up track room and create the need for double handling by the railroads, and second, car utilization suffers. Ideally, all inbound cars would be unloaded immediately on arrival in a terminal and outbound cars billed when loaded. There are valid reasons why this cannot always be accomplished. Erratic service by railroads may require industries to allow some slack in transit time and cars may bunch up en route. A production process may be such that it has to be run continuously and the product loaded into cars before shipping orders are received. To the extent that industries can minimize the holding of cars, however, overall terminal operations and car utilization can be improved.

Implementation: The action required to implement this solution is:

- Each industry examines its practices regarding ordering of inbound material and outbound shipping and makes whatever modifications are possible to avoid delaying cars.

Costs/Benefits:

Capital Investment: None.

Operating Expense:

- Possibly none, but would have to be determined on a case-by-case basis.

Operating and Capital Benefits:

- Reduced demurrage charges to industries
- Reduced switching costs to railroads and industries
- Improved car utilization

- Possible avoidance of need to maintain or construct storage trackage.

Funding: None required.

General Evaluation: Changes in loading and unloading procedures to release cars quickly may be possible at little cost or the costs may be more than offset by reductions in demurrage. Industries should examine their operations to determine how detention of rail cars could be reduced and what the cost trade-offs would be.

** VIII-2: Industries Furnish Railroads with Accurate Advance Forecasts of Equipment Requirements

Discussion: Although forecasting car requirements and keeping serving railroads advised in advance will not guarantee an adequate supply of equipment, it helps to do so. Nearly all major railroads now have some form of centralized car distribution and, if future requirements are known sufficiently in advance, there is lead time to move equipment in from outlying points and the dependence on locally available cars is reduced. To be effective, there must be good communication between shippers and the local railroad car distributors. There must also be close liaison between local railroad personnel and the car distribution center.

Implementation: The action required to implement this solution is:

- Lines of communication are established between the industry and the serving railroad and a systematic procedure is agreed to for furnishing forecasts of car requirements.

Costs/Benefits:

Capital Investment: None required.

Operating Expense: Minimal.

Operating and Capital Benefits:

- To the extent that industries get improved car supply, the expense of alternate transportation is reduced
- Car utilization should be improved.

Funding: None required.

General Evaluation: Normally, when industries furnish railroads with accurate forecasts of car requirements, the odds that the equipment will be supplied when needed are improved considerably. It is virtually a no-cost method for improving car supply and well worth the limited effort required.

VIII-3: Minimize Grain Inspection at Cedar Rapids

Discussion: Car detention, yard congestion, extra switching and the associated expense caused by grain inspection have been chronic problems in the Cedar Rapids area. In the past decade, however, there has been a dramatic shift of grain traffic from rail to truck (the rail share is now less than 20 percent) and the problem has now become relatively minor. It is still a problem, however, and could again grow to major proportions if there is a substantial increase in the rail share of grain traffic. Several relatively recent developments - unit train rail movements and the rapidly escalating price of diesel fuel - could cause this to occur. Even at the present level of traffic, rail operations in Cedar Rapids would be improved to the extent that grain inspections are reduced or eliminated. If rail tonnage of grain increases, the efficiencies from these improvements will be compounded.

One means to eliminate or reduce grain inspection at Cedar Rapids is adequate inspection at the point of origin.

Another method would be to increase the use of automatic samplers that collect grain for testing as cars are being unloaded.

A third possibility would be to advance the grain bulletin time to, perhaps, 7:00 A.M., which should result in grain being inspected and released earlier and the cars switched to consignees sooner.

None of these procedures has been totally accepted within the grain industry but substantial cost reductions might be possible if any or all could be implemented.

Implementation: The actions required to implement this solution are:

- All participants in the grain industry, from country elevators and brokers to the processors and the USDA, make a concerted effort to establish an acceptable system of origin-point inspection
- Railroads participate to the extent that clean, non-infested cars are furnished for the movement of grain
- Examine the possibility of grain inspection being performed at the consignees' plant (as is done with trucks) so that cars can move directly to these locations, thus reducing switching
- Explore more widespread use of automatic samplers
- Study the possibility of an earlier grain bulletin time
- Examine the feasibility of grain being bulletined and inspection conducted regularly on a seven-days-a-week basis to avoid weekend delays.

Costs/Benefits:

Capital Investment: Might require expenditures to develop an acceptable system of origin-point inspection of grain.

Operating Expense: Possible increase in cost of providing local grain inspection services daily rather than Monday through Friday.

Operating and Capital Benefits:

- Reduced switching expense for railroads
- Improved car utilization
- Possible reduction in demurrage charges
- Possible reduction in storage track requirements
- Reduction in costs of grain inspection if extra inspections are eliminated
- Improved transit time for grain shipments.

Funding: The only initial funding required would be that associated with a study to develop a satisfactory system of origin-point inspection of grain. This would appear to be a project that the USDA might participate in.

General Evaluation: More widespread use of automatic grain samplers would offer the best short-term improvement in grain inspection procedures. Changes in bulletin time (which would require tariff modifications) and increased use of origin point inspection would need study and establishment of standards acceptable to the grain industry.

PROBLEM IX - RAIL/HIGHWAY CONFLICTS IN THE 4TH STREET CORRIDOR

IX-1: Improve the Railroad Physical Plant in the 4th Street Corridor to Expedite Movements

Discussion: From a community standpoint the 4th street rail corridor, extending from north of 1st Avenue to 12th Avenue, constitutes the worst rail-related problem in the study area. There are 12 grade crossings over two running tracks south of 3rd Avenue and over two running tracks and a switching lead north of 3rd Avenue. Industrial spurs also cross several of the streets in this area. The most serious rail-highway conflicts occur at the 1st Avenue through 5th Avenue crossings. These five arterial streets carry over 53,000 vehicles per day, based on the latest available (1979) traffic count.

Rail movements over these crossings were frequent when the MILW and RI were still operating and averaged about 75 per day over 1st Avenue, 40 per day over 2nd Avenue and 25 per day from 3rd Avenue south. Since the demise of the MILW and RI there has been a slight reduction from 3rd Avenue south. The movements over 1st and 2nd Avenues are essentially unchanged, however, since the preponderance of these moves are required for interchange between the four yards north of 1st Avenue and switching at the Quaker Oats plant.

The situation is made even worse by poor track conditions that restrict the speed of rail movements to 10 mph, and by out-of-date crossing warning signals that operate for an excessive length of time before trains actually occupy crossings. With respect to the latter point, a study made in 1972 noted:(1)

> At the 1st Avenue crossing, the signals were activated 66 times between 6 A.M. and 6 P.M. for a total time of 1 hour 50 minutes, or 15.3 percent of the 12-hour period. The tracks were actually blocked for 52 minutes 53 seconds, or 7.3 percent of the 12 hour period. Twenty-six of the 66 times that the signals were activated, the train or switch engine failed to block 1st Avenue. These 26 occasions accounted for 22 minutes 50 seconds of what appeared unnecessary "on" signal time.

(1) CBD Railroad Crossing Study, Traffic Engineering Department of Public Safety, City of Cedar Rapids, December, 1972.

A further undesirable aspect is that the roadway surfaces of the crossings are generally in poor condition.

To resolve this problem, consideration was given to the possibility of removing part or all of the trackage through the corridor. With RI through train movements eliminated, this vacation was conceivable, but only from 3rd Avenue to 8th Avenue. And, possible reroutings of rail traffic would result in even more movements over 1st and 2nd Avenues. In any event, the 1st Avenue and 2nd Avenue crossings could not be eliminated because interchange activity and service to Quaker Oats would continue. Since these two crossings are the most critical it was decided that track removal was impractical.

It was concluded that a rail line must be maintained through the corridor and the best approach would be to determine how efficient railroad operations could be continued with the least adverse effects to the community. Four basic elements were eventually included in the plan:

- Reduce the number of rail movements to the extent possible, particularly during peak highway traffic periods.

- Increase the speed of rail movements to minimize the time crossings are actually blocked.

- Remove all excess track through the corridor to eliminate as many crossings as possible and rebuild all remaining crossings to provide a smooth roadway surface.

- Improve crossing signalization to prevent actuation too far in advance of rail movements over crossings or when movements are stopped short of crossings.

The reduction of rail movements is primarily an operational matter and is discussed in detail in item IX-3.

To increase train speed through the corridor the track which is now in poor condition must be upgraded. This upgrading should be done in conjunction with the retirement of excess trackage and the rebuilding of crossings. Remote control power switches at junctions north of 1st Avenue and south of 7th Avenue would be installed to minimize trains stopping for crew members to align hand-thrown switches.

There is substantial excess trackage that can be retired, permitting elimination of a number of crossings. After

redundant trackage is retired, all crossing signal circuits should be modified and motion sensing or predictor type control equipment installed to prevent unnecessary actuation of signals.

Table VI-6 summarizes the proposed improvements, with preliminary estimates of costs. Figure VI-4 shows graphically the corridor modifications that are included.

Implementation: The actions required to implement this solution are:

- The CNW, ICG and CRANDIC agree on the program of physical improvements noted in Table VI-6, or a modified version thereof
- An equitable division of costs among the railroads, the City, and appropriate State and Federal agencies is developed
- Final costs estimates are prepared
- Necessary contracts are executed
- A schedule is developed and work proceeds.

Costs/Benefits:

Capital Investment:

- Costs associated with track, signal, and grade crossing revisions and upgrading.

Operating Expenses:

- Should be reduced overall because of elimination of some trackage and improvement of remaining tracks.

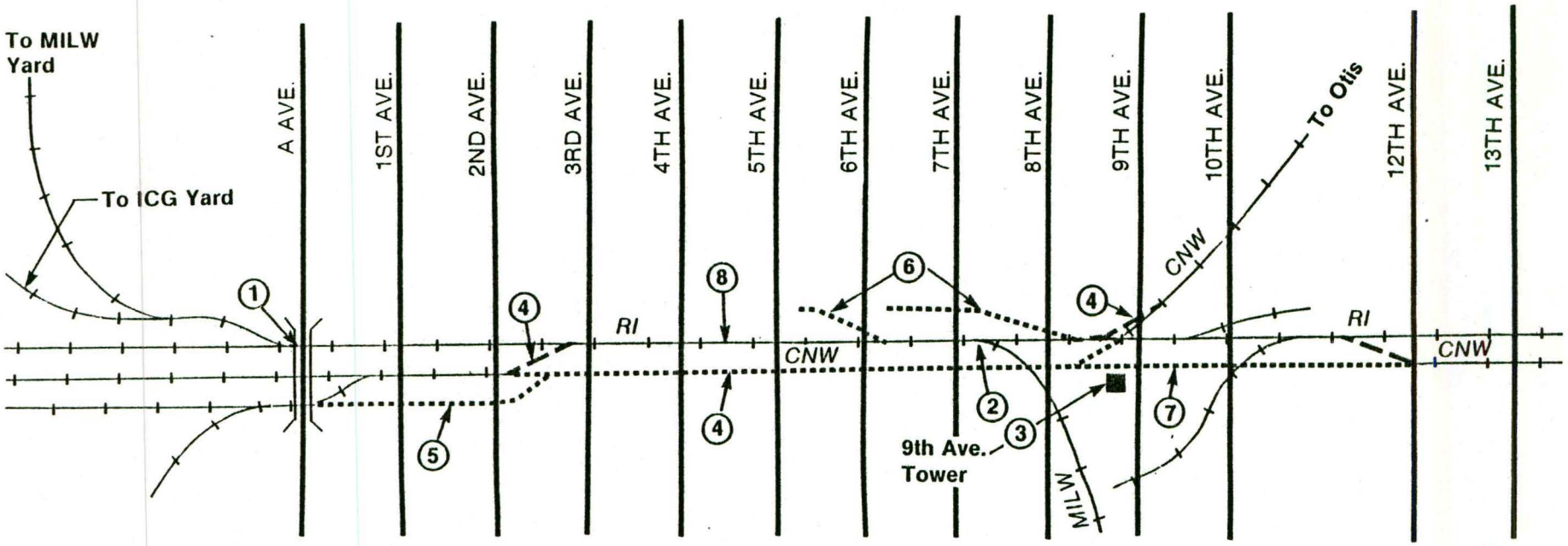
Operating and Capital Benefits:

- Reduced yard engine time because of higher track speed and less stopping to line switches
- Reduced track maintenance expense following major upgrading

Table VI-6

PROPOSED IMPROVEMENTS IN 4TH STREET CORRIDOR

Item	Cost
Upgrade running track between A Avenue and 10th Avenue including ties, surfacing and 115# SH CWR	$ 336,400
Retire unneeded trackage and facilities	5,500
Install #15 turnouts at junction points at A Avenue and 8th Avenue	49,100
Install remote control signal equipment for junction switches at A Avenue and 8th Avenue	231,500
Subtotal	$ 622,500
Modernize grade crossing warning device control circuits at 1st, 2nd, 3rd, 4th, 5th and 6th Avenues	$ 110,700
Install new crossing warning device at 8th Avenue	64,000
Subtotal	$ 174,700
Rebuild grade crossings at 1st, 2nd, 3rd and 8th Avenues with rubber crossing surface	$ 215,900
Rebuild grade crossings at 4th, 5th, 6th, and 10th Avenues with flange rail and asphalt surface	56,774
Subtotal	$ 272,674
Grand Total	$1,069,874



1. INSTALL #15 - #115 POWER SWITCH AT MILW—RI CONNECTION AT "A" AVENUE TO BE REMOTE CONTROLLED
2. INSTALL #15 - #115 POWER SWITCH AT MILW—RI CONNECTION AT 8TH AVENUE TO BE REMOTE CONTROLLED
3. RETIRE 9TH AVENUE TOWER
4. RETIRE CNW MAIN TRACK BETWEEN 2ND AVENUE AND 9TH AVENUE AND CONSTRUCT CONNECTIONS FROM RI TO CNW AT 2ND AVENUE AND 9TH AVENUE
5. RETIRE CNW SWITCHING LEAD BETWEEN "A" AVENUE AND 3RD AVENUE
6. RETIRE INDUSTRY TRACKS AT 6TH AND 8TH AVENUES
7. RETIRE CNW SPUR TO WILSON & CO. FROM 8TH AVENUE TO 12TH AVENUE
8. UPGRADE RI MAIN FROM "A" AVENUE TO 10TH AVENUE
9. REBUILD CROSSINGS WITH IMPROVED ROADWAY SURFACE, MODERNIZE CROSSING WARNING DEVICES AND ADD MOTION SENSING OR CONSTANT TIME WARNING EQUIPMENT AT CROSSINGS FROM 1ST AVENUE TO 10TH AVENUE.

NORTH

NO SCALE

LEGEND

- TRACK TO BE CONSTRUCTED
- TRACK TO BE REMOVED
- EXISTING TRACK

FIGURE VI-4

PROPOSED TRACK IMPROVEMENTS IN THE FOURTH STREET CORRIDOR

- Reduced grade crossing maintenance
- Reduced derailment-related expense
- Elimination of 9th Avenue Tower
- Reduced vehicular traffic delay and associated expense.

An estimate of these savings is summarized in Table VI-7.

Funding: There are four potential sources of funds for this project:

- The railroads should be expected to participate, at least to the extent that operating savings are realized.
- Federal funding under the Highway Safety Act could finance up to 90 percent of grade crossing improvements.
- The State may partially fund grade crossing improvements.
- The City might be willing to participate in grade crossing improvements or general improvements in the corridor.

As plans are further developed, the financing arrangements would be determined.

General Evaluation: The physical improvements proposed in this alternative will considerably reduce delays to vehicular traffic in the 4th Street corridor and provide smooth roadway surfaces at grade crossings. Retirement of trackage would give the City an opportunity to eliminate an eyesore and improve the esthetics of the area. The railroads would benefit by having an upgraded segment of line allowing faster, more efficient movements. The cost is not small but the potential benefits to the railroads, rail users, and the community are great.

IX-2: Complete Connection Between ICG and MILW Yards

Discussion: In connection with the construction of I-380 through the MILW and ICG Cedar Rapids yard area, the Federal Highway Administration agreed to finance a connection between the north end of the ICG's yard and the north end of the MILW yard. See Figure VI-5. The ICG has constructed

Table VI-7

SAVINGS RESULTING FROM IMPROVEMENTS IN THE
4TH STREET CORRIDOR

Item	Estimated Annual Savings
Track and crossing maintenance	$ 16,600
Close 9th Avenue Tower	117,200
Reduction in motor vehicle delay costs[1]	1,227,000
Total	$1,360,800

[1] Based on methodology denoted in "Guidebook for Planning to Alleviate Urban Railroad Problems," Standford Research Institute, 1974.

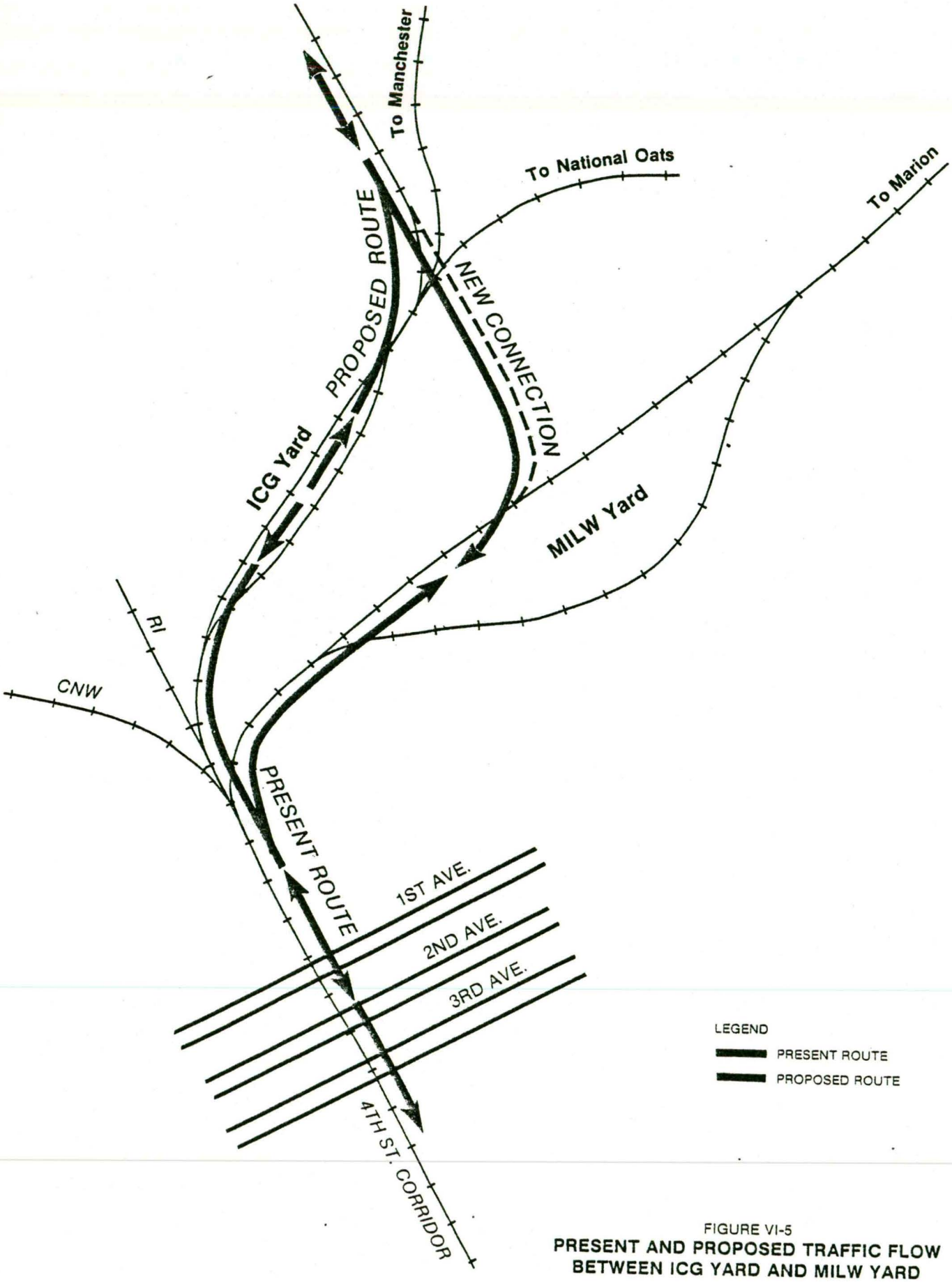


FIGURE VI-5
PRESENT AND PROPOSED TRAFFIC FLOW BETWEEN ICG YARD AND MILW YARD

the segment from the ICG yard to the MILW right-of-way line. The MILW did not build its portion of the connection prior to ceasing operations in Cedar Rapids. The ICG is now negotiating with the FHWA to complete this connection.

When the connection is completed, movements between the ICG yard and the MILW yard can be made without entering the 4th Street corridor. This would eliminate four to six movements per day over 1st and 2nd Avenues.

Implementation: The actions required to implement this solution are:

- The ICG secures FHWA approval to complete the connection
- ICG finishes construction of the connection and puts it in service.

Costs/Benefits:

Capital Investment:

- Cost of completing connection.

Operating Costs:

- Maintenance of new connection.

Operating and Capital Benefits:

- Yard engine time would be saved because of faster moves between yards
- Would permit the ICG to make greater use of the MILW yard, relieving present congestion in the ICG yard
- Would reduce delays to vehicular traffic along the 4th Street Corridor
- Less rail traffic in the 4th Street corridor would reduce interference between movements.

Funding: The money has already been authorized by the FHWA. An agreement for the ICG rather than the MILW to do the work is all that is required.

General Evaluation: This alternative would offer operating benefits to the ICG and, to a lesser extent, to other railroads, by eliminating some train movements in the north end of the 4th Street corridor. It would also reduce rail-highway conflicts in the same area. Since the funds are already allocated by the FHWA, the project should be completed quickly.

IX-3: Minimize Rail Movements During Peak Vehicular Traffic Periods

Discussion: The volume of vehicular traffic over the 4th Street corridor crossings varies a great deal during a typical day. Normally traffic is relatively light from about 7 P.M. to 6 A.M. and considerably heavier during the day. The peak traffic periods are from approximately 7 A.M. to 10 A.M. and 3 P.M. to 6 P.M.(1)

From the viewpoint of the average citizen, the best solution to the crossing blockage problem in the corridor might be to ban all rail movements during peak traffic periods. In a broader sense however, efficient rail operation and service to industries are extremely important to the community. Aside from the doubtful legality of any attempt to statutorily impose severe restrictions on rail movements, a better approach would be for the City and railroads to cooperatively work out a plan to minimize rail movements during periods of peak vehicular flow.

Implementation: The actions required to implement this solution are:

- The City takes traffic counts at all corridor grade crossings to determine peak traffic periods
- The railroads determine what operating modifications can be made to minimize movements during peak traffic periods
- Guidelines are established to minimize crossing blockage during peak traffic periods
- Guidelines are circulated to railroad employees and enforced by railroad management.

(1) This information is based on data gathered in the 1972 CBD Railroad Crossing Study but is estimated to give a reliable comparison of current traffic volumes at different times of day.

Costs/Benefits:

Capital Investment: None.

Operating Expense: Minimal, if any.

Operating and Capital Benefits:

- No savings to railroads
- Savings to the community to the extent that vehicle delay costs are reduced from the 1972 estimate of $341,000 annually.

Funding: No funding would be necessary to implement this solution, other than relatively minor expense to the City and railroads to develop guidelines.

General Evaluation: The timing of railroad movements is governed by many factors that are beyond the control of local railroad personnel; for example, road train schedules are frequently determined by arrivals and departures at terminals hundreds of miles away. Also, industries may require switching at certain times to maintain production. In spite of these restrictions, many localized rail movements are discretionary and with conscientious effort on the part of railroad operating personnel, these movements can be made so as to avoid peak vehicular traffic periods. To the extent that this is accomplished, efficient rail operations can continue with reduced interference to vehicular traffic in the 4th Street corridor.

Chapter VII

EFFECTS OF MILWAUKEE ROAD AND ROCK ISLAND TERMINATION OF OPERATIONS

BACKGROUND

When this study was started in September 1979, both the Milwaukee Road and the Rock Island were in bankruptcy and the future of both lines was in doubt. Shortly after January 1, 1980, it became apparent that it was quite likely that both roads would cease operations in the Cedar Rapids area; accordingly, efforts were directed toward developing contingency plans that would:

- Generally coincide with acquisition proposals of railroads that had expressed an interest in MILW and RI property.
- Permit implementation of the improvement plans already being considered.
- Provide the best overall rail system for Linn County.

The acquisition offers made to the Federal Railroad Administration on February 1, 1980, by the CNW, CRANDIC, ICG and Kansas City Southern (KCS) were the basis of these contingency plans.

The two general alternatives for acquisition and operation of MILW and RI facilities in the Linn County area were:

Alternative I - This plan would result in abandonment of MILW and RI main lines through Linn County and retention of only the trackage necessary to serve industries in the Cedar Rapids-Marion metropolitan area. This is basically similar to the "Chicago and North Western Proposal." Figure VII-1 denotes the rail system that would result.

Alternative II - This plan contemplates abandonment of the MILW main line through Linn County, but would continue operation of the RI's route from West Liberty through Cedar Rapids to Iowa Falls. This conforms approximately to the "Kansas City Southern Proposal." A map of this system is shown in Figure VII-2.

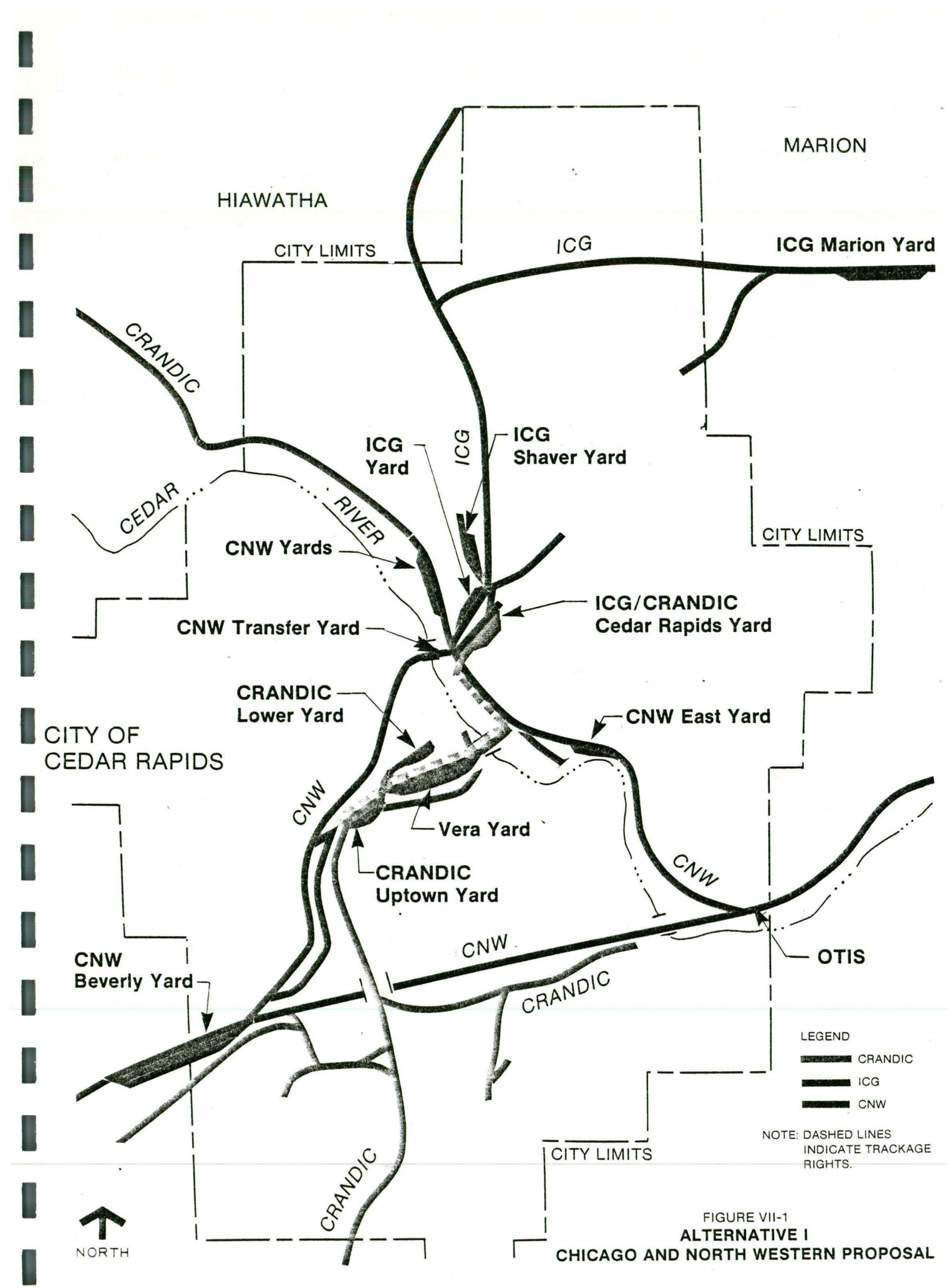


FIGURE VII-1
ALTERNATIVE I
CHICAGO AND NORTH WESTERN PROPOSAL

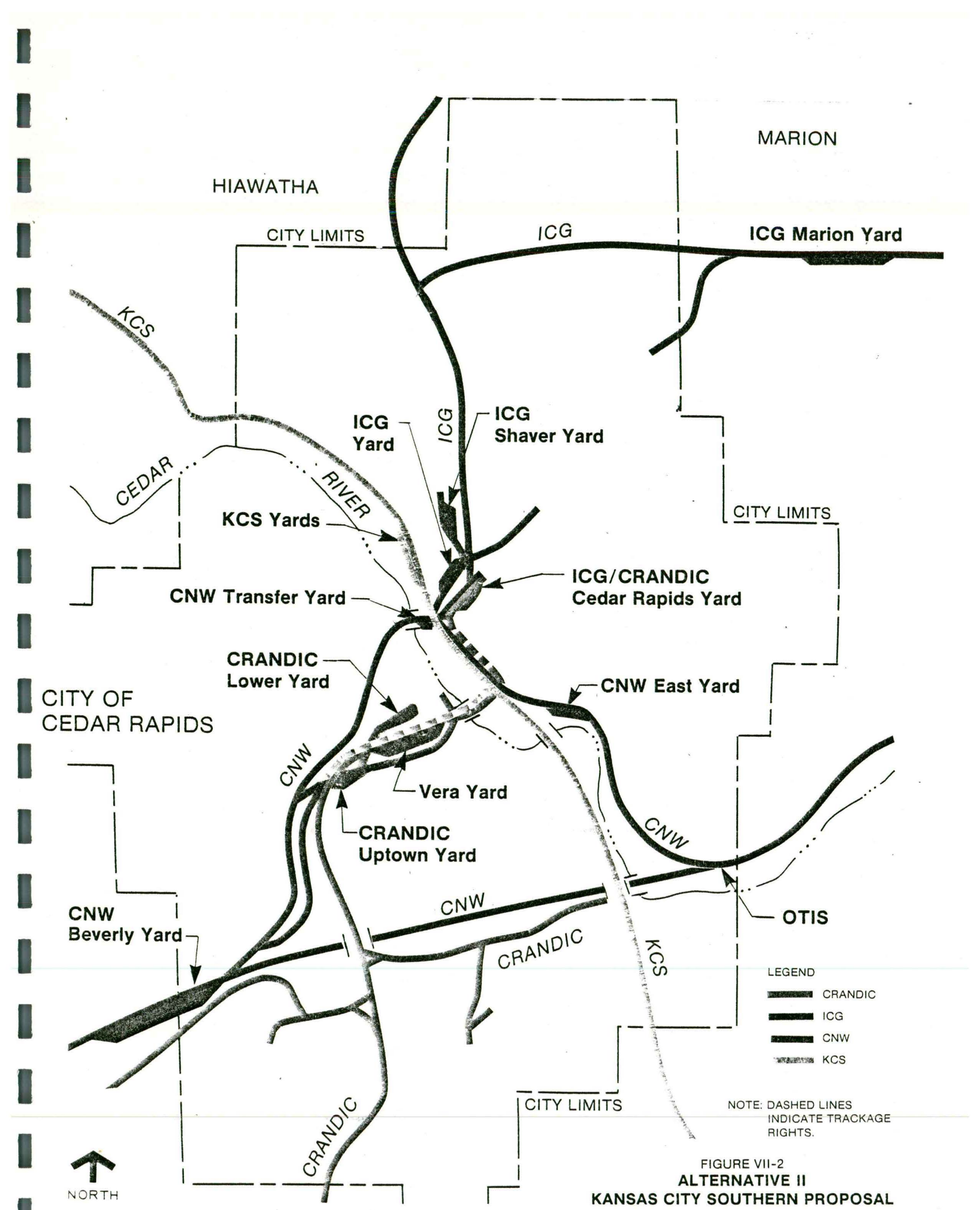


FIGURE VII-2
ALTERNATIVE II
KANSAS CITY SOUTHERN PROPOSAL

An analysis was made to determine how each alternative could be made to fit with the goals of the Linn County Railroad Improvement Study. A recommended plan for each alternative was developed that adhered as closely as possible to the acquisition offers of the respective railroads.

The main provisions of the two alternatives are as follows:

ALTERNATIVE I: "CHICAGO AND NORTH WESTERN PROPOSAL"

Assumptions:

- MILW would cease all operations into Cedar Rapids and Marion.
- RI would cease all operations into Cedar Rapids and no other road would use existing main tracks.
- All MILW and RI trackage and facilities within the metropolitan Cedar Rapids area, and the MILW line to Amana, would be available for acquisition by the CNW, CRANDIC and/or the ICG.
- All existing industries that have rail access would continue to be served by one of the surviving railroads.

Recommended Plan Under Alternative I:

1. ICG would acquire and operate MILW facilities between Louisa and Marion, and between Indian Creek and Menard Lumber Co.

   Discussion: ICG is well located to serve this area. By constructing a connection between ICG and MILW at Louisa, a portion of the MILW line from Indian Creek to Cedar Rapids could be abandoned. Table VII-1 summarizes the estimated cost of the connection and a map of the area is shown in Figure VII-3.

   If CNW or CRANDIC were to operate this portion of MILW, a considerable amount of track rehabilitation would be required between Cedar Rapids and Indian Creek, and there would be additional rail traffic in the 4th Street corridor.

2. CRANDIC would acquire MILW facilities from Amana through downtown Cedar Rapids to Iowa Manufacturing, except between Beverly Tower and Vera.

Table VII-1

ESTIMATED COSTS AND SAVINGS OF NEW
CONNECTION FROM ICG TO MILW AT LOUISA

Cost Item		Estimated Cost
Construct 2,300 feet of track including 3 turnouts		$142,400
Grading		250,600
Property acquisition (1 acre @ $10,000)		10,000
Remove 2,400 feet of track including 2 turnouts		14,200
Salvage		(5,300)
	TOTAL	$411,900

Savings Item	Costs Saved
Construction of I-380 Grade Separation	$4,000,000

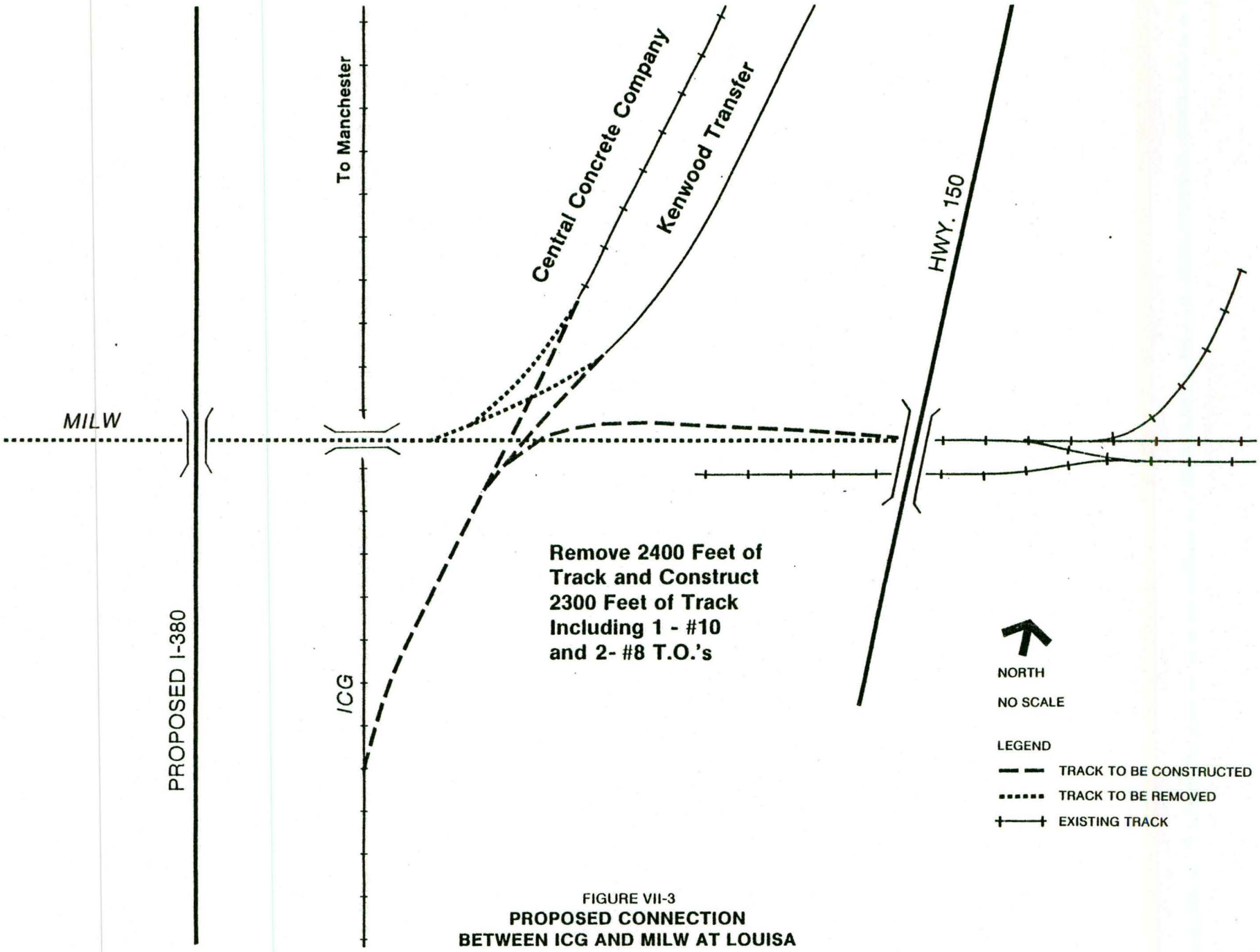


FIGURE VII-3
PROPOSED CONNECTION
BETWEEN ICG AND MILW AT LOUISA

Discussion: This acquisition would give CRANDIC direct access to the 6th Street power plant and a direct interchange with ICG. CRANDIC could serve Amana more economically than any other carrier.

By building a new connection south of Beverly Tower, the existing CNW-MILW interlocking, including rail crossings, could be retired. This connection was discussed under improvement alternative II-8. If MILW City Yard team track facilities were relocated to CRANDIC's Uptown Yard, MILW property would be released for redevelopment.

3. ICG would have operating rights in the MILW Cedar Rapids Yard for interchange with CRANDIC, access to and use of the MILW scale, access to National Oats via MILW, and whatever other track usage is required. For access to the MILW Yard, the connection between the ICG Yard and the MILW Yard presently under construction would be completed.

   Discussion: This action would give ICG needed direct interchange with CRANDIC. ICG use of the MILW scale would eliminate the need for a scale in ICG's City Yard. With use of additional trackage in the MILW Cedar Rapids Yard, ICG team tracks and other trackage in City Yard could eventually be retired and this land made available for redevelopment. Rail traffic would be reduced through the 4th Street corridor.

4. CNW would acquire MILW trackage between Beverly Tower and Vera.

   Discussion: CNW would gain storage tracks through this acquisition. This section of former MILW main line could be used for storage purposes once the connection between the CRANDIC and MILW was constructed south of Beverly Tower.

5. CNW would have operating rights between Vera and the 9th Avenue Tower.

   Discussion: This action would permit straight movements between the RI Yard and Beverly Yard, and allow the eventual retirement of some CNW trackage between Beverly Yard and the Transfer Yard. It would give the CNW more operational flexibility because a second route between Beverly and downtown Cedar Rapids would be available.

6. CNW would acquire all RI facilities and operations from the north end of the Cedar River bridge to the north limits of Cedar Rapids Yard.

   Discussion: This acquisition would have the following advantages:

   - It would give CNW needed yard space and improve the CNW trackage layout in the downtown area.
   - It would give CNW access to a scale in the downtown area and eliminate movement of cars to East Yard for weighing; it would also eliminate the need for a scale at Beverly.
   - It would permit CNW operation of road trains directly into and out of RI Yard rather than to Beverly Yard for subsequent transfer moves.
   - Trackage in Mill and Transfer Yards could be retired, releasing property for possible use by Quaker Oats.
   - Rehabilitation of Transfer and Mill Yard trackage would no longer be necessary.
   - All grain inspection could be performed in RI Yard, releasing track space at Beverly Yard.
   - Expansion of Beverly Yard could be avoided.

7. CRANDIC would acquire RI facilities from the north end of North Yard to Palo (for access to the power plant) and have operating rights from Transfer Yard to North Yard limits.

   Discussion: Rail access to the power plant at Palo must be maintained. The CNW has indicated that it does not want to take over this portion of the RI main line but the CRANDIC is willing to do so.

8. CRANDIC would acquire switching from RI at the Pennick & Ford plant. A new connection would be required within the plant complex and is already under construction.

   Discussion: This transfer of work would permit abandonment of approximately 1.25 miles of lead track that is presently in poor condition. CRANDIC could more efficiently handle the volume of inbound RI traffic involved,

and since Pennick & Ford is open to reciprocal switching, all carriers could compete for the road haul.

9. RI downtown trackage north of 9th Avenue and west of 4th Street would be phased out and facilities relocated.

   Discussion: Placing rail facilities closer to the yard would minimize engine yard time and release downtown property for redevelopment.

ALTERNATIVE II: "KANSAS CITY SOUTHERN PROPOSAL"

Assumptions:

- MILW would cease all operations into Cedar Rapids and Marion.
- KCS would acquire RI facilities and operations.
- All MILW trackage and facilities within the metropolitan Cedar Rapids area as well as the line to Amana would be available for acquisition by the CNW, CRANDIC, KCS, and/or the ICG.
- All industries with rail access would continue to be served by one of the surviving railroads.

Recommended Plan Under Alternative II:

1. ICG would acquire and operate MILW facilities between Louisa and Marion and between Indian Creek and Menard Lumber Co.

   Discussion: See Alternative I, Item 1.

2. CRANDIC would acquire MILW facilities from Amana through downtown Cedar Rapids to Iowa Manufacturing, except between Beverly Tower and Vera.

   Discussion: See Alternative I, Item 2.

3. ICG would have operating rights in the MILW Cedar Rapids Yard for interchange with CRANDIC, access to and use of the MILW scale, access to National Oats via MILW, and whatever other track usage is required. For access to the MILW Yard, the transfer track from the

ICG Yard to the MILW Yard presently under construction would be completed.

Discussion: See Alternative I, Item 3.

4. CNW would acquire MILW trackage between Beverly Tower and Vera.

   Discussion: See Alternative I, Item 4.

5. CNW would have operating rights between Vera and the 9th Avenue Tower.

   Discussion: See Alternative I, Item 5.

6. CNW would acquire RI City Yard and two tracks in Grain Yard.

   Discussion: This acquisition would have the following advantages:

   - It would give the CNW needed yard space and improve the trackage layout in the Transfer Yard area.
   - Some trackage in Transfer Yard and Mill Yard could be retired, releasing property for possible use by Quaker Oats.
   - Rehabilitation of some Transfer and Mill Yard trackage would no longer be necessary.
   - KCS would still have adequate yard space in the remaining RI yards.

7. CRANDIC would acquire switching from RI at the Pennick & Ford plant.

   Discussion: See Alternative I, Item 8.

8. RI downtown trackage north of 9th Avenue and west of 4th Street would be phased out.

   Discussion: See Alternative I, Item 9.

9. CNW would have access to the MILW scale in the Cedar Rapids yard.

   Discussion: This action would eliminate the need to move cars to East Yard for weighing, and the need for a scale at Beverly.

CURRENT STATUS

On March 1, 1980, the Milwaukee ceased operations in the Cedar Rapids area, followed by the termination of Rock Island service on April 1, 1980. The ICG, CRANDIC and CNW took over temporary operation of various segments of MILW and RI facilities.

The results of the intervening operation to date indicate that the following improvements can be implemented regardless of which alternative eventually becomes permanent:

1. The route through the 4th Street corridor should be reduced to one main track and street crossings upgraded, crossing warning devices modernized, and signalling and power switches added to permit train movements at higher speed. These improvements would greatly reduce interference with street traffic.

2. A segment of the Milwaukee line between Cedar Rapids and Marion could be removed, eliminating the need to rebuild a highway overpass in this area.

3. All surviving railroads could acquire additional yard trackage, badly needed for efficient operations and anticipated increased traffic from key industries.

4. Direct interchange of traffic between all railroads would be possible, eliminating the intermediate handling that now takes place.

5. Because trackage and other facilities will be available elsewhere, the yards now located between 4th Street and the Cedar River will no longer be needed and this area could be redeveloped, as is now being planned by the city.

6. The railroads could retire a considerable amount of track, reducing maintenance costs and avoiding the expense of rehabilitation.

These points are all important elements in the rail system improvement plan. Whether or not they are implemented is now largely dependent on the ability of the CNW, CRANDIC, and ICG to negotiate an equitable division of former MILW and RI property, negotiate acquisition from the owners, and work out mutually satisfactory operating agreements.