

teMPO

SPECIAL
EDITION
DECEMBER 1998



KEEPING PACE WITH OUR TRANSPORTATION NEEDS

SPECIAL REPORT

As 1998 chugs to a close, it's a good time to review the past year's transportation planning activity. Most often, the stories that dominated throughout the year concerned car travel, the mode that most of us employ to get around. Such *teMPO* '98 headlines included "Marion County Traffic Counts", "Hamilton County Road Remedies" and "Local Traffic Calmed." Even initiatives like the much-covered *conNECTIONS* major investment study of the northeast corridor, which is multi-modal in scope, probably would not have been federally funded had traditional highway expansion not proven unable to keep pace with increased car travel and related peak hour congestion.

But there's another means of conveyance in use throughout the region that lends itself to both a backward *and* forward glance — rail. Whether shipping goods or carrying passengers, our rail service has long attracted national attention and praise. This was certainly true in the early 1900's when, even as our city was promoted as "the second motor city", trains kept the local population moving and the regional economy growing (see *Indy's Track Record*, this page). And, now that passenger rail service promises to be in the news throughout 1999, what better time for *teMPO* to pursue this train of thought with background, fun facts and breaking news. Read on!

INDY'S TRACK RECORD

Do all things get better with age? At the turn of the century Indianapolis had an urban rail system that was the envy of the nation. Carrying nearly 70,000,000 paying passengers annually, this form of public transportation served the needs of the business district and far flung suburbs alike, some as distant as the State Fair grounds *or beyond!*

Yet despite its national reputation for customer service and fine accommodations, Indy's passenger rail system eventually fell out of vogue. As the public embraced the freedom and self-sufficiency offered by the increasingly affordable automobile, transit ridership decreased.

cont on page 8, see Track Record



'C'S OF CHANGE: CONRAIL, CSX AND COMPETITION

Until recently, our local rail industry was dominated by Conrail, the country's seventh largest rail freight carrier which operated about 1,000 trains a day nationwide. Created in 1976 by the U. S. Government, Conrail was intended to run the operations of Penn Central and five other failed Northeast railroads. And, it did just that over an 11,000 mile rail network in 12 northeastern and Midwestern states, the District of Columbia and Quebec.

cont on page 6, see 'C's of Change

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ACRO-NYMBLE

Here's a list of the agency and program acronyms mentioned in this issue. Refer to it to keep your understanding letter-perfect.

AGT - Automated Guideway Transit

DMD - Department of Metropolitan Development

FRA - Federal Railroad Administration

FRED - Flashing Rear End Device

HOV - High Occupancy Vehicle

ICC - Interstate Commerce Commission

INDOT - Indiana Department of Transportation

IPL - Indianapolis Power & Light

MIS - Major Investment Study

MPA - Metropolitan Planning Area

MPO - Metropolitan Planning Organization

MWRRS - Midwest Regional Railroad System

ROW - Right-of-Way

TTC - Transportation Technology Center

INDOT STUDIES PASSENGER RAIL

Two studies currently underway at the Indiana Department of Transportation (INDOT) are examining the viability of developing improved inter-city passenger rail service. One study is looking at the development of a Midwest system, while the other is evaluating the potential of a few additional routes within Indiana. With increasing congestion on our interstate highways and at the region's major airports, the level of interest in passenger rail has grown dramatically in recent years.

The first, called the Midwest Regional Rail Initiative, began in 1996. It is a collaborative effort among nine Midwest states - Minnesota, Wisconsin, Illinois, Indiana, Iowa, Ohio, Missouri, Michigan and Nebraska - plus the National Railroad Passenger Corporation (Amtrak), and the Federal Railroad Administration (FRA). The first two phases of the MWRRS examined the viability of this proposed Midwest network and included the development of a business plan for its successful implementation. "Our findings demonstrated that the system will have revenues that exceed operating costs, after the initial capital costs are paid," said Tom Beck, Rail Planner with the Rail Section of INDOT. "The system proposes linking all major Midwestern cities via high speed rail, with trains traveling at approximately 110 mph."

"Ideal targets are cities at least 150 to 350 miles apart. This is the distance at which trains are most competitive with both airline and automobile travel. Total travel time from city center to city center is often quicker by rail than by air at this distance," explained Beck. "Advantages of rail over automobiles include the traveler's ability to either relax or accomplish other tasks in transit, while avoiding the high parking costs associated with car travel upon arrival in the central core of a destination city." Projected costs for high speed rail travel are expected to be equivalent to, or lower than, the lowest current discount air fares.

The proposed MWRRS is an expanded and modern passenger rail system that :

- Preserves, improves and expands passenger rail service by significantly reducing travel times and increasing frequencies.
- Provides a high quality, reliable passenger rail service that is intermodal and accessible to 80 percent of the region's population.
- Creates an appealing transportation "product" that the public will pay for and use, requiring no long-term operating subsidies.
- Follows an incremental implementation schedule that is affordable and can be cost-justified.

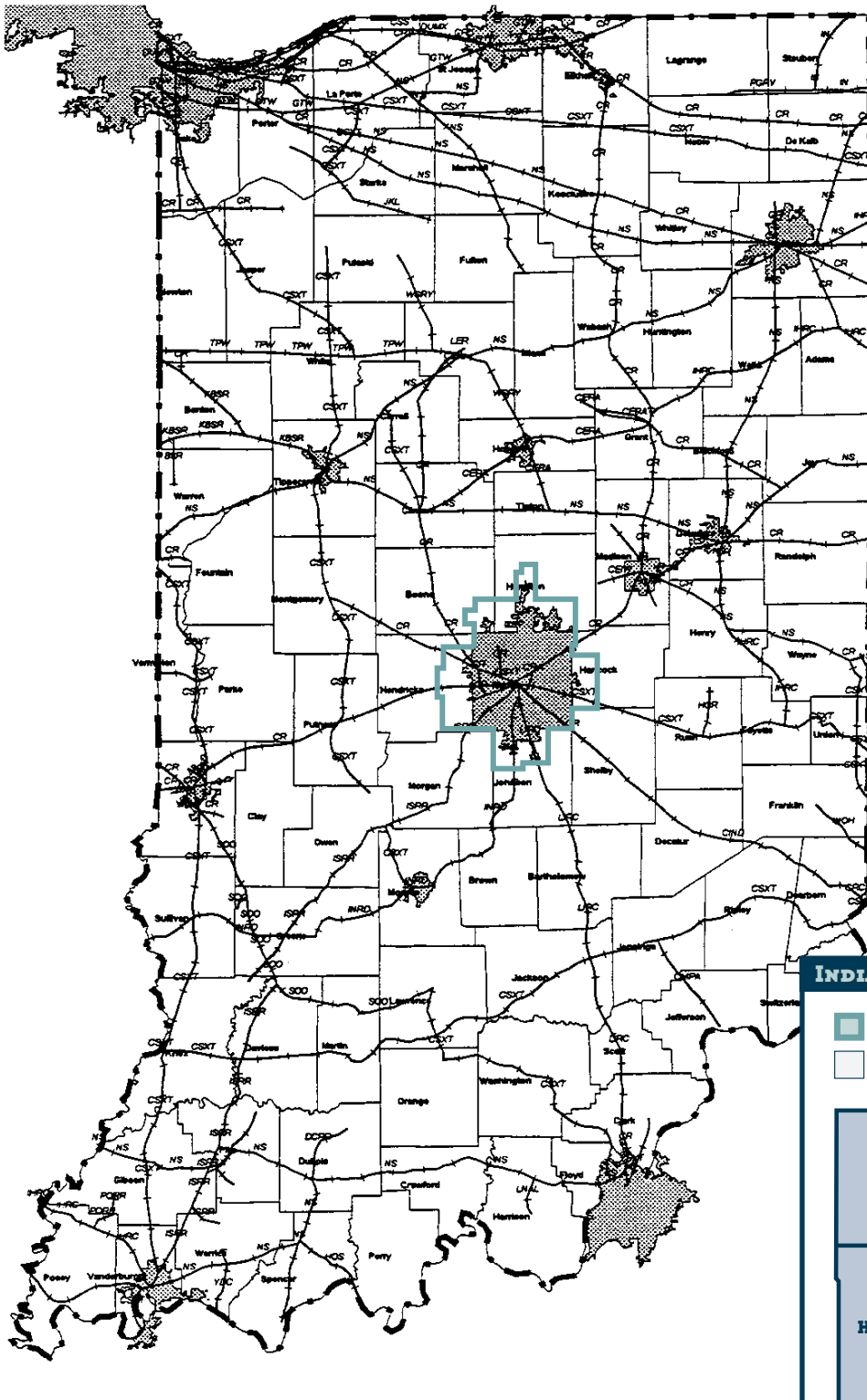
- Requires no more than a 20 percent contribution from the states for capital investment
 - Supports economic growth and creates business and development opportunities within and around stations
 - Increases job opportunities in manufacturing and the service industries.
- cont on page 7, see INDOT Study*

? D I D Y O U K N O W ?

The average train takes about a mile to stop, even after the emergency brake has been pulled.

Around 500 motorists die at railroad crossing each year.

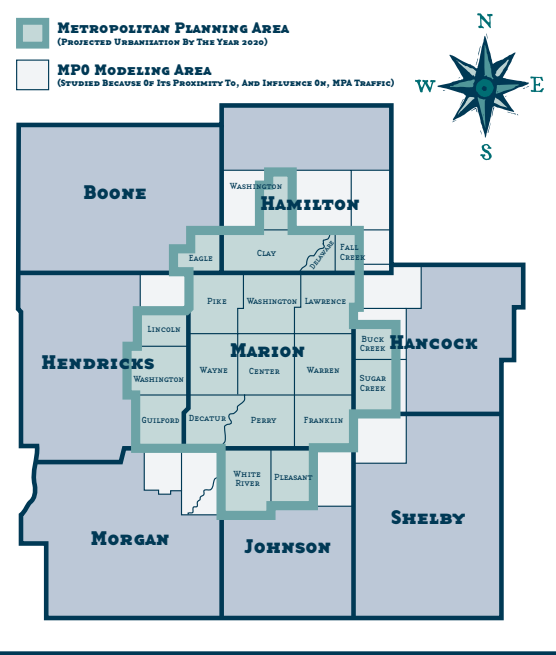
RAILROADS OF INDIANA • 1995



? DID YOU KNOW?

America's modern rail freight system is the only one in the world to operate at a profit without government subsidies.

INDIANAPOLIS METROPOLITAN PLANNING AREA

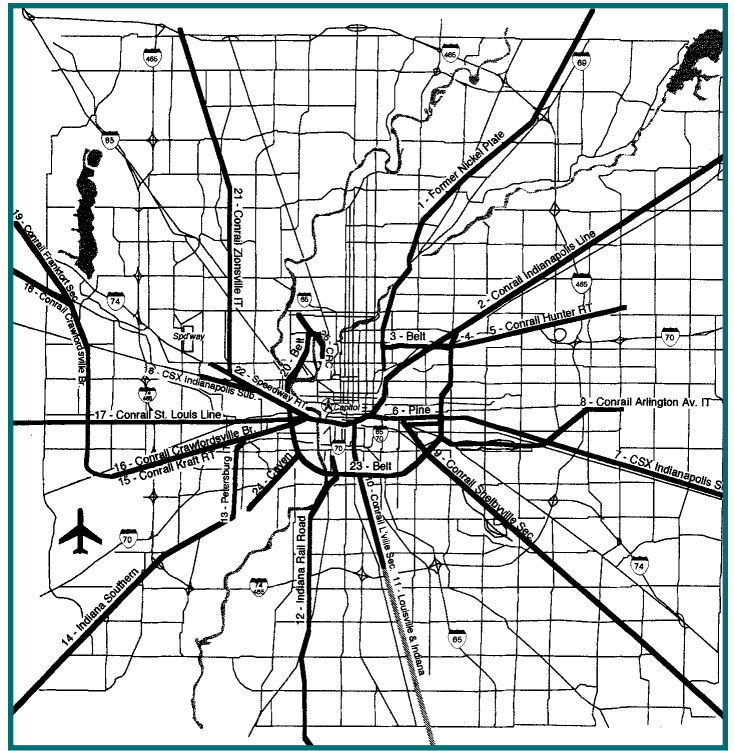


Note: all roads on boundary lines are excluded except Marion County's east and south county lines.

AN OVERVIEW OF LOCAL RAIL CARRIERS

Indianapolis is the “crossroads of America” for railroads, just as it is for highways. Today, a total of 26 rail corridors are operated in the city. Ownership of our regional rail network has changed dramatically over the last two decades, and is currently undergoing another set of changes as a result of the Conrail merger (see related story, page 1). In 1997, two Class I railroads and four Class III, or shortline, railroads operated in Indianapolis. These classifications are based on rail revenue standards established annually by the Interstate Commerce Commission. These standards, established in 1993, determined that Class I railroads were those which have operating revenue of more than \$250 million per year; Class II railroads have operating revenue greater than \$20 million per year but less than \$250 million; and, Class III railroads have operating revenue below \$20 million per year.

Throughout the state, six Class I railroads operate a total of 3,100 miles of main line track. Until recently, 2,963 of these miles were operated by the three largest railroads in Indiana: Conrail, CSX and Norfolk Southern. Following their purchase of Conrail, CSX and Norfolk Southern will jointly operate these facilities. The remaining 33 Class II and III railroads total an additional 1,403 miles of line.



The two Class I and four Class III railroads operating in the Indianapolis Metropolitan Planning Area (MPA) in 1997, the last full year of reporting, are identified below:

Conrail was the largest northeastern railroad system, linking Chicago and St. Louis with Philadelphia, New York and New England. Conrail was the dominant carrier in Indianapolis, serving most local retail customers by making up east- and westbound trains and providing intermodal service from its Avon Yard facility. Conrail owned and operated the lines of the Indianapolis Belt Railway, which accesses many Indianapolis businesses and links almost all of the shortline railroads. In 1998, the proposed acquisition of Conrail by CSX and Norfolk Southern was approved by the Federal Surface Transportation Board.

CSX Transportation is a major eastern system serving most areas east of the Mississippi River, except New England. Prior to its purchase of Conrail facilities, CSX had relatively few Indianapolis customers. Most of its local activity was related to the Nucor Steel mill in Crawfordsville or grain or other customers between Indianapolis and Cincinnati.

Norfolk Southern used to provide only limited service to Indianapolis, operating a total of 16 miles of trackage in the nine-county area. Now, with part ownership in the Conrail facilities, and with local access guaranteed through a city-engineered reduced switching fee agreement with CSX, Norfolk Southern is likely to play an increasing role in providing competitive rail freight service to local shippers.

cont on page 11, see Overview

MAJOR FREIGHT RAILROADS IN INDIANAPOLIS

Name	Notes	Miles of Trackage*
Conrail	Previous dominant carrier locally. Operated primarily east-west, longhaul movement. Just purchased by CSX and Norfolk Southern.	188
CSX	Until recently, served relatively few local customers, operated north-south service to Cincinnati.	42
Norfolk Southern	Limited service to Indianapolis prior to its joint purchase of Conrail with CSX. Had previously operated branch line to Noblesville.	0
Indiana Southern Railroad	Service to Evansville; significant coal traffic.	41
Indiana Railroad Company	Service to Bloomington and Sullivan; significant coal traffic.	31
Central Railroad of Indiana	Third-party owner; can enter Indianapolis using trackage rights on Conrail; service to Shelbyville and Lawrenceburg.	0

* in nine-county area. Source: City of Indianapolis Comprehensive Rail Study.

THE FUTURE OF FREIGHT RAIL

"Most people think of freight trains as a thing of the past, but they couldn't be more wrong," asserts Steve Cunningham, Senior Planner with your MPO. To substantiate his claim, Cunningham, who has both a professional and personal interest in trains, points to the facts.

"There are seven rail freight handlers in the U.S. which earn more than \$1 billion in annual revenues, including the Union Pacific, Burlington Northern, Santa Fe, Southern Pacific, Conrail (see *C's of Change*, page 1), Norfolk Southern and CSX." Cunningham notes. "And the Union Pacific alone earns \$6 billion in annual revenue. UP is also spending \$650 million a year to replace worn equipment and add new track. Does that sound like a dead industry to you?," he asks.

In addition, there are currently five other domestic rail carriers with just slightly lower revenues, and more than 400 "shortlines" that serve smaller communities by shipping local goods to the larger lines. All together, rail moves 40 percent of the nation's freight, a

percentage that continues to climb as the economy and efficiency of rail proves superior to that of trucks. Just in the decade between 1983 and 1993, rail productivity jumped 157 percent. During the same period, rail revenues increased 32 percent while rates dropped 40 percent. Is it any wonder the industry is back on track?

Still, among many, the prevailing perception is that trains are out of date.

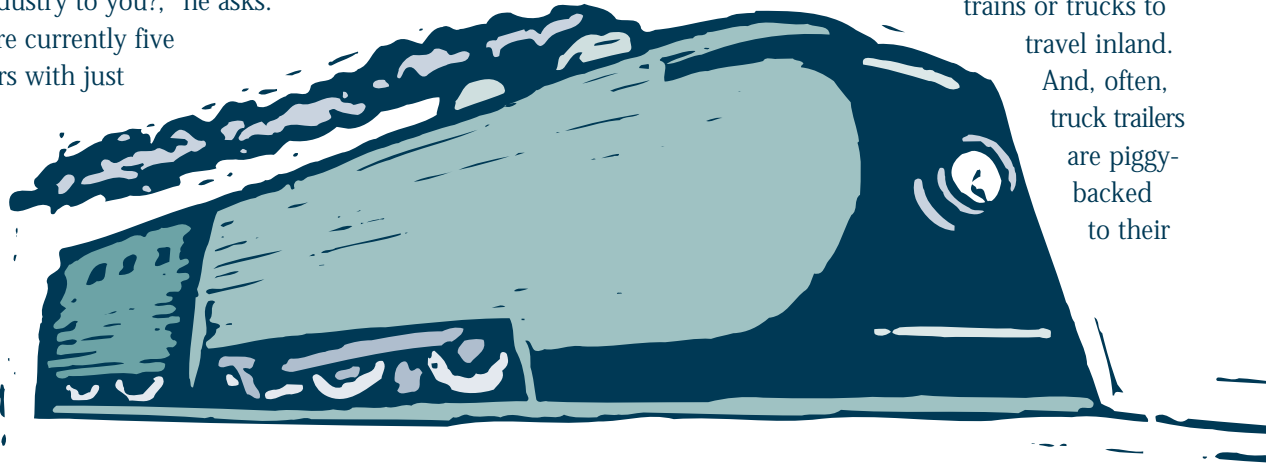
"I think it's what we've been taught," says Cunningham. "In school, we read about the golden age of railroads that began in 1869 with the driving of the golden spike. What could be more exciting than linking the country's east and west coasts? Over the next fifty years, the American rail industry grew to about 250,000 miles of track, thanks to people like John Henry, Buffalo Bill and a lot of colorful, but unscrupulous, robber barons. How do you compete with images like that?" he asks.

Because of the influence of such robber barons, the Interstate Commerce Commission (ICC) was established to eliminate corruption and enforce government regulations on rail price rates, routes and schedules. Combined with growing competition from cars, trucks and airplanes, these regulations nearly pushed the railroads to extinction. By the late 1960's, once dominant carriers like the New York Central and Pennsylvania Railroad were headed for bankruptcy.

In 1971, the industry finally got some relief when the federal government created Amtrak to take over the failing passenger train service. This allowed surviving rail companies to concentrate on building more profitable freight business. In 1980, a bill called the Staggers Rail Act partially deregulated the industry and freed railroads to set their own routes, rates and schedules. In less than 20 years, the result has been the development of a freewheeling, highly competitive industry, dedicated to modernization and customer service.

"Our globalized economy is bringing railroads back stronger than ever," notes Cunningham. "Today, goods leaving our country arrive at the docks via rail and are loaded aboard ship by "sidepickers" or "sideloaders." Foreign goods entering the country are unloaded onto

trains or trucks to travel inland. And, often, truck trailers are piggy-backed to their



destination because it is more economical!"

After years of cutthroat competition the trucking industry, still our country's dominant mode of transport, is attempting to get rail's benefits "on board." In today's economy, and with rail's competitive shipping rates, it is often cheaper for a company to piggyback truck trailers on flat cars than to pay for drivers and fuel on a cross-country haul. A locomotive, for example, moves a ton of freight 300 miles on a single gallon of fuel- three times the distance a truck can. "Economy, speed and service are really the qualities sought by intermodal freight systems which integrate rail, road, sea and air travel. It's also why intermodal freight is the fastest growing segment of the rail industry today." Cunningham says. "The same service characteristics that first recommended rail service 150 years ago have brought it back again."

For more information on our regional Intermodal Freight System Plan, review the previous two issues of *teMPO* (Vol. 2, Issues 2 and 3) or call Sweson Yang, AICP, MPO Chief Transportation Planner at **317/327-5137**. For more information on rail in our area, call Steve Cunningham, MPO Senior Planner, at **317/327-5403**.

'C's OF CHANGE (from page 1)

That all changed in June of this year when the Federal Surface Transportation Board approved the purchase and subsequent break up of Conrail by CSX and Norfolk Southern railroads. The acquisition which had been opposed by dozens of freight-dependent businesses throughout the Indianapolis metropolitan planning area (MPA), left only two major rail freight haulers east of the Mississippi River: CSX and Norfolk Southern — the same carriers who were purchasing Conrail's assets.

CSX Corporation and Norfolk Southern Corporation formed a jointly owned company to acquire the routes and assets of Conrail, Inc. In so doing, the companies tendered an offer of \$115-a-share for Conrail stock on May 23 of this year. For its portion of the deal, \$5.9 billion, Norfolk Southern would get routes representing 58% of Conrail revenue while CSX's \$4.3 billion would buy routes accounting for 42% of Conrail's revenue. The \$10 billion + deal would yield approximately 6,000 miles of track for Norfolk Southern, 3,600 miles for CSX, and 1,000 miles to be shared by both railroads. Until this agreement, CSX had been larger than Norfolk Southern, but the 58-42% split of Conrail now would make the rail carriers almost equal in size.

Generally speaking, shippers from Kansas City to the East Coast supported this acquisition because it promised more railroad choices in the northeast United States and much needed capital improvements to the rail network upon which they depended. The cost of such improvements alone were estimated by CSX Chairman John Snow at more than \$200 million and would result in benefits like higher rail speeds and shorter delivery times.

But what about local freight-dependent businesses, including the 66 area shippers identified by the city who were used to having two carriers compete for their business? How did they feel about losing Conrail as the dominant market provider and the perennial competitor CSX now wielding exclusive control of the area's rail routes?

Indianapolis Power & Light, for one, voiced its objections on the basis that less competition would inevitably mean higher shipping rates. IPL ships two million tons of coal each year to fire electric generators at two plants in

Indianapolis. Prior to the purchase IPL, like many other local businesses, benefited in negotiations by having both Conrail and CSX interested in serving its coal freight needs. With the loss of competition, IPL feared a hike in its rates which would, ultimately, have to be reflected in the utility costs charged to the public.

CSX and its purchasing partner, Norfolk Southern, have maintained that there will be no decline in competition, or customer choice in the Indianapolis market. Officials of both railroads have repeatedly said they plan to aggressively compete

for customers in the Indianapolis market, though Norfolk Southern's switching yards and other support facilities stop well north of the city at Lafayette and Muncie. Clearly, to serve just about any shipper in Indianapolis, Norfolk Southern would have to have a switching agreement with CSX to use track which CSX will control. And, being in the position to inhibit competition, CSX could choose to raise the \$390 per car switching fees most recently charged by Conrail for access to the same track.

For local shippers like IPL, the claim of continued competition and freedom of choice rang false. The Conrail acquisition would leave IPL with service from CSX Corp. and the

shortline, Indiana Railroad, to its Stout plant on South Harding Street. However, CSX owns 89% of Indiana Railroad which, for this reason, would pose no real competitive threat. Because it ships about 2 million tons of coal to its Stout and Perry K plant, the utility argued before the Federal Surface Transportation Board for better trackage rights for Norfolk Southern and another shortline railroad, Indiana Southern. In this way, the promise of competition among rail shippers serving some of the areas largest industries might be maintained, if not improved.

cont on page 7, see 'C's of Change

? DID YOU KNOW ?

The Avon Yard, located west of Indianapolis, is the largest major rail system classification yard in our region, handling approximately 30 trains and 1,400 to 1,800 cars a day!

Y O U R M P O S T A F F

... includes these people who would be happy to address your comments or questions on any aspect of the transportation planning process:

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'C'S OF CHANGE (from page 6)

In an effort to help ensure the continued economic health of area businesses, Indianapolis Mayor Stephen Goldsmith met with officials of CSX Corp. in fall of 1997 in order to obtain assurances on several key points. After nearly eight months of negotiations, the city announced it had reached an agreement with CSX Corp. and was withdrawing its official objections against the planned acquisition which it had filed with the Federal Surface Transportation Board. Specifics of the agreement, intended by both the city and CSX Corp., to improve the effect of the acquisition on area businesses include:

- CSX will charge no more than \$250 per rail car to switch Norfolk Southern cars in Indianapolis for five years after acquiring control of Conrail routes. This figure represents a \$140 per car reduction of the \$390 rate previously charged by Conrail.
- The city has the right to appoint an auditor to participate in a joint CSX/Norfolk Southern cost study to examine switching fees.
- CSX will negotiate to allow Norfolk Southern to purchase and/or build track for Norfolk Southern's exclusive use at Conrail's Hawthorne Yard Terminal, located off Southeastern Avenue on the city's Southeastside, if Norfolk Southern so desires.
- CSX will grant Norfolk Southern switch access to all existing and future shippers located on the Indianapolis railroad beltway and any industry not on the beltway that currently has service from two railroads.

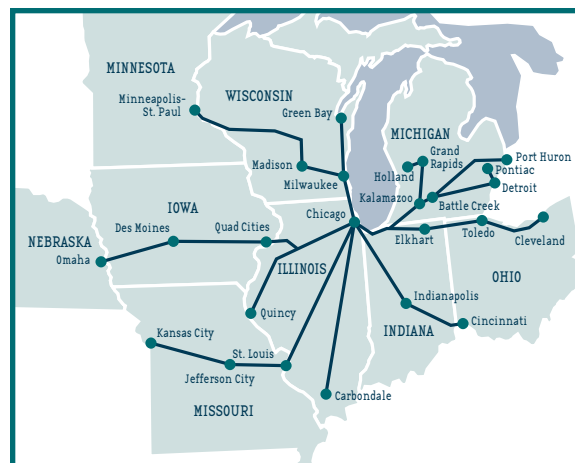
These and other provisions go a long way toward assuring the continuation of the competitive environment that benefits local rail freight shippers and area business in general. To underscore the importance of such measures, the Federal Surface Transportation Board acknowledged the decline in our area's rail competition and offered some relief by attaching conditions to its approval of the Conrail purchase. Among these are the board's order that CSX allow Norfolk Southern access to IPL power plants on the city's Southside over what was formerly Conrail track.

INDOT STUDY (from page 2)

The Initiative has already completed Phase I and Phase II which examined the viability of the system and involved preparation of an economically feasible business operating plan. Phase III is starting now and, along with re-assessing and formalizing the existing operating plan and its ridership forecasts, it seeks to develop an efficient organizational structure for the regional system and to define cost-sharing procedures for its many multi-state rail corridors.

In Indiana, three routes are being examined. These are the Detroit-Chicago route through Northwest Indiana, the Chicago-Cleveland route across northern Indiana, and the Chicago-Cincinnati corridor through Indianapolis. In Phase III, funding briefings will be held with the staff of the Midwest Congressional delegation.

Ultimately, a high speed rail service network linking the major cities of nine Midwestern states would involve about 3,000 miles of track and



cost about \$3.5 billion. A financing goal of 80% Federal funding and 20% state/local matches is sought.

A second INDOT study concerning passenger rail service is focusing only the Hoosier State. Called the Indiana Statewide Passenger Rail Study, this initiative is concentrating on identifying the passenger rail routes with the most potential in Indiana. "This could be viewed as a complement to the geographically broader Midwest Initiative," Beck says. "Here we're looking at Indiana rail corridors exclusively, trying to determine if there may be others in Indiana that are appropriate for the development of current or future passenger rail service." Typical routes may include Indianapolis to Terre Haute, Indianapolis to Fort Wayne, Indianapolis to Louisville, or Terre Haute to Evansville. This study, begun in 1997, should be completed by early 1999.

"At one time, rail was the preferred means of travel for its convenience, comfort and speed," Beck notes. "Now, through these studies, and through preliminary discussions about corridor improvements with the owners of the rail lines, we are attempting to develop rail service that can be considered a desirable, high quality transportation alternative. Our goal is to offer riders the safety and speed benefits of new technology along with the old fashioned concepts of comfort and economy."

? D I D Y O U K N O W ?

*Indiana has lost about
2,000 miles of rail line
since 1968.*

TRACK RECORD *(from page 1)*

Only the area's freight rail system continued to grow to meet the demand of the city's retail and industrial concerns. The city's growing army of new motorists would soon complain about wheel damage and the bumpy ride caused by urban tracks, just as city fathers considered how these steel girdles inhibited development and urban redesign.

Following the Second World War as steel manufacturing and fabrication of items nonessential to the war effort resumed, it only made sense to completely convert the city public transit system to off-track buses. After all, the city was growing in all directions, to accommodate the population boom of returning G.I.s and their growing families. Buses could travel on new roads along side family sedans. Laying track to serve a diminished ridership didn't make good economic sense.

? DID YOU KNOW ?

The term "in'ter•ur'ban" was coined in 1893 by Charles L. Henry, a lawyer and electric rail pioneer from Anderson, IN, to describe electric railways between towns.

But, in a time when the car is considered the traditional form of "getting around" and there is increasing demand for alternative modes of transportation throughout the region, it's good to remember what once was and, with updating, could be again. The following excerpts appeared in the November, 1912 issue of *Brill Magazine*, a trade publication. William Howard Taft was President, the Titanic had sunk just seven months earlier and Indianapolis was showing the world how a modern city moved people.

The City

Indianapolis... has an area of 30 square miles and a population of 250,000. It is one of the most attractive inland cities in the United States, having an arrangement of streets and avenues remarkable for its orderliness, an excellent system of parks, splendid public and business buildings, and many beautiful residences. At the center is the Soldiers' and Sailor' Monument "Circle," near which four principal avenues radiate to the four corners of the city; the other streets, with few exceptions, run at right angles to each other. All streets and avenues are 90 ft. wide, except Washington Street, which has a width of 120 ft.

...Eight parks are within the city's boundaries, with an aggregate area of over 1300 acres, and three just outside the limits, add much to the beauty of the city.

...The Soldiers' and Sailors' Monument which stands in the circle in the center of the city, rises to a height of 285 ft. above the street level and has enormous fountains at the base, said to be the largest in the world, their capacity being 20,000 gallons per minute.

...The state and city institutional buildings are commodious and modern, and the city is well provided with hospitals and libraries. As an educational center, Indianapolis takes a high rank, having the University of Indiana, Indianapolis College of Law, Indiana Medical College, State College of Physicians and Surgeons, Indiana Veterinary College, the Indianapolis Normal School, and a number of technical and training schools.

The central geographical position and extensive railway connections, together with its proximity to important coal fields, make Indianapolis one of the foremost industrial centers in the middle west. In the live-stock industry, the city stands first in the Ohio Valley and has stock yards in the southwestern part which cover more than 100 acres. Slaughtering and meat-packing have, from an early date, been the principal industries, and of recent years the manufacture of automobile bodies, motors and accessories has become so large as to rival other chief industries, and today Indianapolis is said to be the second automobile-building city in America.

It has large foundries and machine shops, flour and grist mills, steam railway car building and repair shops, structural iron works, printing and publishing plants, planing and wood mills, lumber yards, carriage and wagon works, cotton and woolen goods, starch, furniture, canned goods, factories and many others which belong in the class of its chief industries.

cont on page 9, see Track Record



TRACK RECORD *(from page 8)*

The Rail System

...Indianapolis is served by eight trunk steam railway lines, all of which enter the Union Station, and more than 150 trains, carrying over 30,000 passengers, enter and leave daily. The station and lines are outside of the business district. The city is the greatest interurban electric railway (Editor's Note: street cars) center in the world, having no less than 12 lines radiating in all directions, aggregating a trackage of 1346 miles and averaging in 1911, 517 passenger cars leaving the interurban terminal station every 24 hours, and 65 freight cars from the freight terminal.

The Indianapolis Traction & Terminal Company operates all of the city lines, comprising 140 miles of single track with nearly all the system double-tracked. The central loop or belt system of double-track lines, which surrounds a square of four full blocks in the heart of the city, and double-track lines looping around blocks on all sides of the central belt, provide ideal terminal facilities for a radial street railway system of this character and also for the entrance to the terminal station of the interurban cars coming from all directions. The width of the streets, together with the fact that the "Circle" and the thoroughfares within the central loop are free of railway lines, facilitates the

movement in every direction of vehicles and pedestrians through this district and reduces to a minimum the traffic congestion

commonly experienced in the business districts of large cities.

The large central belt terminal, by enabling passengers from all parts of the city and vicinity to enter or leave the city and interurban cars at almost any point in this zone, has tended to distribute the office buildings, shops, banks, hotels, theaters and public buildings over a broad area (Editor's Note: an early example of the relationship between land-use and transportation planning.)

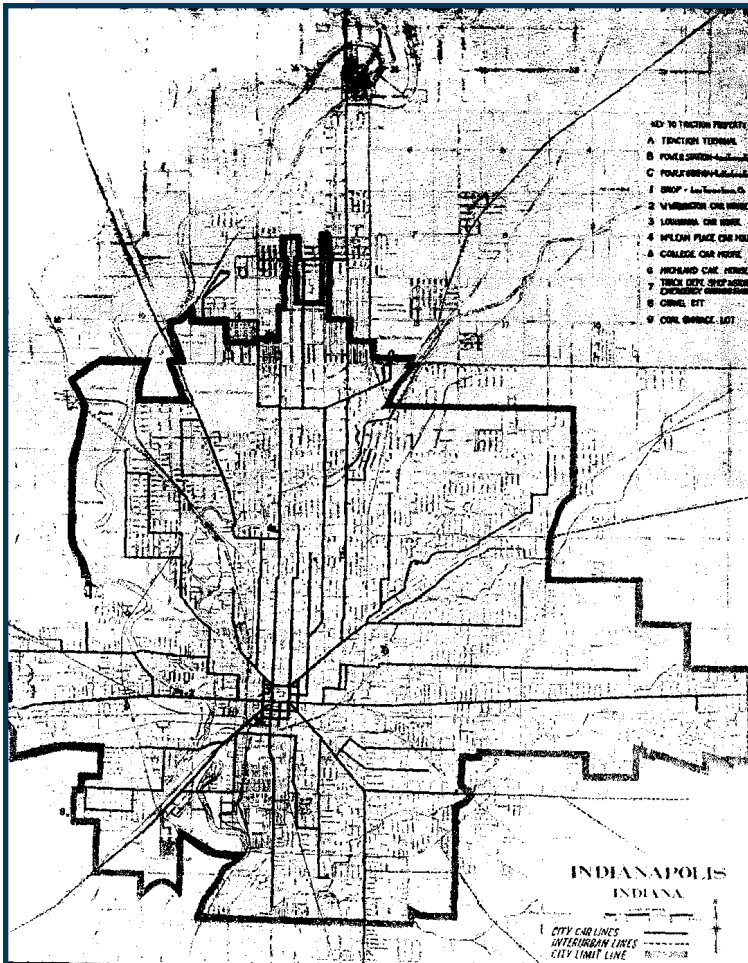
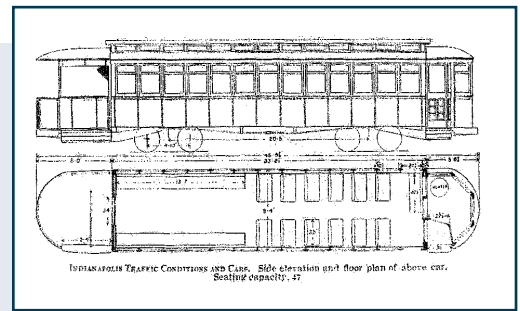
...The intersection of Washington and Illinois Streets and the junction of Kentucky Avenue form the heaviest street railway point in Indianapolis. Between 5:30 and 6 PM, when the peak of the evening rush hour occurs, an average of six cars a minute, or 360 an hour, pass or turn here. While this number is high for a system of the completely radial type and for a city of this population, it does not indicate undue congestion, as the cars receive most of the load at various points on the main loop or the supplementary loops and, therefore, the number of passengers taken on at this point or near-by points is not excessive.

...The wide, level streets and avenues, and long blocks, permit a comparatively high rate of speed to be attained as soon as the cars leave the central loop district.

...The map (Editor's Note: see this page) shows the excellent arrangement of the entire railway system. The routes in all directions are direct and sufficiently close in the outlying districts to provide adequate transportation to every section within the municipal boundaries and beyond to several parks, the State Fair Grounds, and a number of populous suburbs.

The number of cars in normal operation averages about 244 during the morning rush hour period and 245 for the evening load. These periods extend from 6 to 8:30 AM with the peak from 7:30 to 8; and in the evening from 4:30 to 6:30 PM, with the peak from 5:30 to 6. The car mileage for 1911 totaled 10,540,596 miles, with 65,504,929 revenue passengers carried, which figures 6.21 revenue passengers per car mile; 20,810,437 transfers were collected. The density of traffic in the same year, as shown by the number of revenue passengers per mile of track (140 miles) was 467,892.

cont on page 12, see Track Record



CONNECTIONS' RAIL CONSIDERATIONS

As previously reported (*teMPO* Special Edition, May/June 1998), an 18-month major investment study (MIS) of northeast corridor transportation is currently underway. This study, called *conNECTions*, is investigating potential solutions to the corridor's problems of traffic congestion and lack of mobility as it relates to public transit. The northeast corridor, stretching from just south of downtown northeast to Noblesville, is our region's most traveled corridor. As such, our region's transportation system suffers its most acute problems here.

To solve these problems, *conNECTions* is evaluating a variety of potential solutions using the assessment criteria of Effectiveness, Cost-Benefit Analysis, Financial Feasibility, Environment, Social Equity and Anticipated Public Acceptance. Included among these are several passenger rail options as well as various roadway improvements, conventional and express bus service and High Occupancy Vehicle (HOV) Lanes.

With the renewed general interest in rail service availability, as well as the growing demand for alternative transportation options, the possibility of local rail service has generated the most press for *conNECTions* to date, possibly because it promises to make economical use of existing facilities, like the 38-mile abandoned rail corridor that stretches from Tipton to 10th Street in Indianapolis. Still, there is no such thing as a free ride.

Following is a brief description of four rail systems under *conNECTions'* consideration, including the construction and operating costs per mile for each:

LIGHT RAIL TRANSIT

This system is similar to the electric trolleys or street cars that characterized the region's interurban rail system in the early 1900's (See *Indy's Track Record*, page 1). Like the vehicles of old, modern light rail cars are powered by electrified overhead wires and can operate on existing streets in mixed traffic, or exclusive right-of-ways (ROW).

Average Vehicle Capacity	145 passengers
Operating Environment	Mixed traffic or separate right-of-way
Average Operating Speed	Mixed traffic - 20 mph Sep. ROW - 45 mph.
Typical Station Spacing	1/2 to 1 mile
Construction \$ per mile	\$20 to \$25 M
Operating \$ per vehicle mile	\$6.75 to \$9.60

Currently Used In:

- St. Louis, where 18 miles of track, from downtown to the airport, carries 40,000 riders a day.
- Cleveland, where 15 miles of track carries 26,000 rider a day from the suburbs to downtown and back.
- Portland, where two lines stretch 33 miles from the suburbs to downtown and carry 50,000 a day.



CONVENTIONAL COMMUTER RAIL

This system involves a diesel or electric-powered train on its own right-of-way or sharing track with a freight railroad.

Average Vehicle Capacity	125 to 200 passengers
Operating Environment	Separate or shared tracks
Average Operating Speed	40 mph
Typical Station Spacing	1 to 5 miles
Construction \$ per mile	\$10 to \$30 M
Operating \$ per vehicle mile	\$9.95

Currently Used In:

- San Francisco, where the CalTRAIN system covers 47 miles
- Baltimore, with its 187 mile MARC system.
- Chicago, where the Metra system operates over more than 400 miles of track
- NW Indiana, where the SouthShiore Line stretches from South Bend to Chicago.

COMMUTER RAIL/DIESEL MULTIPLE UNIT (DMU)

This system involves a self-propelled diesel powered rail car that operates on existing rail lines.

Average Vehicle Capacity	100 passengers
Operating Environment	Separate or shared track
Average Operating Speed	35 mph.
Typical Station Spacing	1 to 5 miles
Construction \$ per mile	\$4 to 8 M
Operating \$ per vehicle mile	\$7.00 to \$8.00

Currently Used In:

- Europe. Also, the Regio Sprinter (DMU) was demonstrated in the US and Canada.
- Dallas, where 13 refurbished rail diesel cars began service in January 1997 on an initial 10-segment of track.

AUTOMATED GUIDEWAY TRANSIT (AGT)/MONORAIL

This is a system of electric-powered driver-less vehicles operated on an elevated guideway usually for circulator service.

Average Vehicle Capacity	AGT - 20 to 100 passengers Monorail - 30 to 45 passengers
Operating Environment	Elevated guideway
Average Operating Speed	AGT - 20 to 30 mph Monorail - 35 to 45 mph.
Typical Station Spacing	1/4 to 1/2 mile
Construction \$ per mile	\$30 to \$120 M
Operating \$ per vehicle mile	\$20 to \$40

Currently Used In:

- Newark, where an 1.9 miles AGT system operates between the airport and Amtrak station
- Miami, where a downtown AGT system incorporates 4 miles of track
- Disney World, where a Monorail System covers the 14.5 miles from parking facilities to park attractions
- Seattle, where the 1.1 mile Monorail system, a reminder of the 1962 World's Fair still aids downtown travelers.

For more information on these or any of the options being evaluated by *conNECTIONS*, or for more information on the study itself, call the *conNECTIONS* Hot Line, toll-free, at **1-877-NEC-LINK**, visit the *conNECTIONS* web site at www.indygov.org/connections, or call Lori Miser at **327-5136** or Mike Peoni at **327-5133**, both of your MPO.

OVERVIEW (from page 4)

Central Railroad of Indiana, a shortline, operates the former Conrail line between Shelbyville and Cincinnati with trackage rights over Conrail facilities from Shelbyville to Indianapolis and Frankfort.

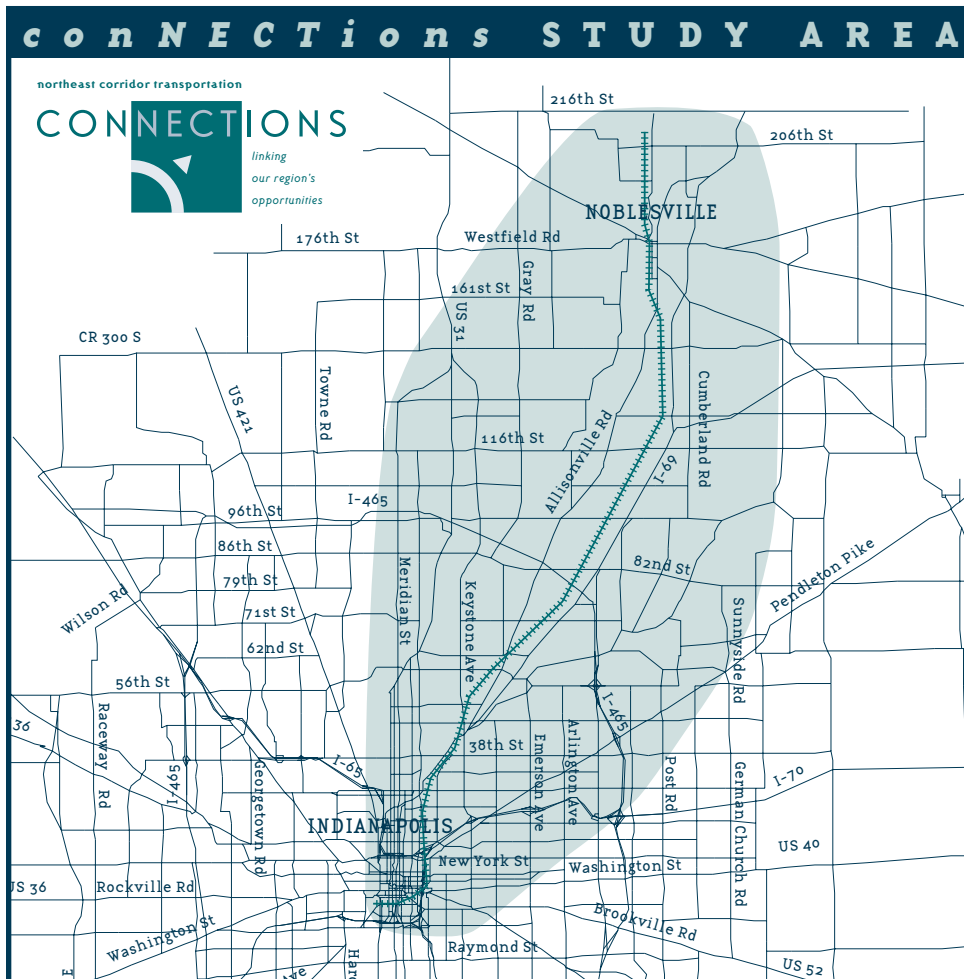
Indiana Railroad Company, a shortline, operates the former Illinois Central Gulf line between Indianapolis and Newton, Illinois. It handles significant coal traffic from Indiana mines to Indianapolis Power & Light Company (IPL), and directly serves IPL's Stout Plant. It is the only shortline railroad with terminal facilities in Indianapolis. CSX owns 40% of the company's stock.

? DID YOU KNOW ?

Our regional rail needs are currently served by five rail yards: Avon, Hawthorne, State Street, Transfer Yard (near Oliver and Warman Avenue), and Senate Avenue Terminal Yard.

Indiana Southern Railroad, a shortline, operates the former Conrail line between Indianapolis and Evansville. It also handles significant Indiana coal traffic destined for IPL. The company is a subsidiary of RailTex, which operates about 25 shortline railroads nationwide.

Louisville & Indiana Railroad, a shortline, operates the former Conrail line between Indianapolis and Louisville. The company has little business in Indianapolis but serves numerous customers to the south.



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TRACK RECORD *(from page 9)*

The Facilities

The type of closed car chiefly used on the Indianapolis system is arranged for single-end operation and is built on a staunch wooden bottom frame having sills well reinforced with steel plate and inside and under-trussing to withstand any tendency to deflection due to the wide truck centers and long rear platform. The sides are sheathed in No. 10 sheet steel put on in short sections and readily removable in case of injury. The seating arrangement, shown in the accompanying diagram, provides efficiently for the mixed city and suburban service characteristic of all the lines. Standing space at the rear is supplemented by the long

platform on which passengers are allowed to smoke. A wire screen encloses the upper part of the far side of the platform. Ingress and egress are at both ends, the rear step being wide enough for three persons to board or alight at the same time.

...Brill No. 27-F trucks, capable of a speed of 35 miles per hour, are employed under the majority of these cars.

A large portion of the closed cars are replaced during the summer by 15-bench open cars equipped for single-end control and, therefore, have a running board on one side only and high wire screens enclosing the far side from end-to-end. The passenger equipment comprises in all 211 double-truck closed cars, 60

single-truck closed, 65 double-truck open, 122 single-truck open. The service cars include 7 sweepers, 2 snow plows, and 6 sands cars equipped with track scrapers.

? DID YOU KNOW ?

Railroading dates back to 1803 when the steam-puffing "iron horse" was invented in Great Britain.



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