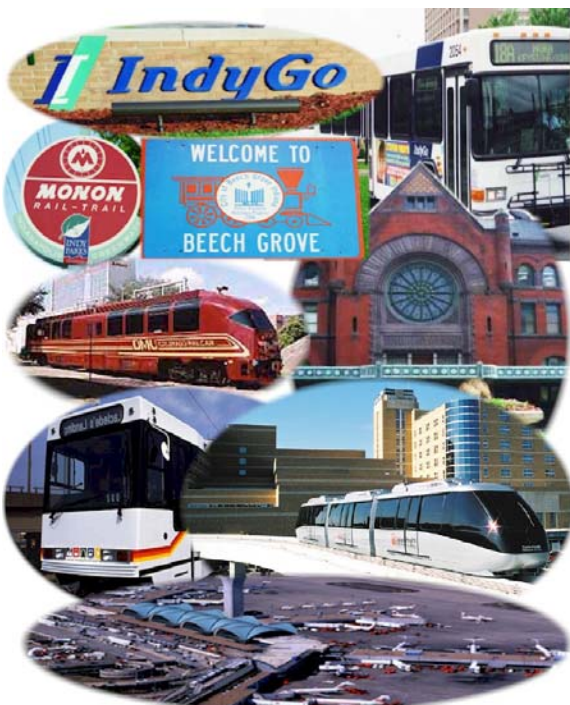




**INDIANAPOLIS
METROPOLITAN PLANNING ORGANIZATION**

Tech Memo
Review of Earlier Rail Transit
Development Studies and
Recommendations

Indianapolis Metropolitan Area Rapid Transit Study



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I. INTRODUCTION

The purpose of this technical memorandum is to present a review of relevant and salient features of the earlier rail transit development studies and their recommendations. Accordingly, this tech memo provides a baseline of information for the current study. Significant changes that have occurred since the studies were completed are noted.

Modifications in the conclusions and recommendations of these earlier studies are recommended, where appropriate, to reflect changed conditions now in existence. The changed conditions include: the decision of the MPO to pursue a region-wide study of transit, including consideration of a full range of mode alternatives and multiple corridors; and the findings of Tech Memo 1-3, which provides a summary of public responses to specific rail solutions presented for the Northeast Corridor Transportation Study, as well as recent information reported in the media affecting a regional rail transit system.

The recommendations that are provided in this tech memo should be viewed as preliminary and subject to revision as the Indianapolis Metropolitan Area Rapid Transit Study progresses and a comprehensive region-wide rail transit network is realized.

II. REVIEW OF EARLIER STUDIES

A. City of Indianapolis Comprehensive Rail Study

This December 15, 1995 Department of Metropolitan Development (DMD) study was commissioned to inventory the Indianapolis-area rail system for the purpose of identifying key links that are likely to and should be maintained to provide good freight and passenger rail service, plus lesser-used links that might become available for transit/commuter rail service (or non-rail uses). The study notes that safety concerns cause railroads to reject any non-rail uses of active rights-of-way. The study also discusses a number of possible funding sources for corridor acquisition and preservation.

The study's Appendix A contains data sheets for each of the rail corridors in the Indianapolis area, detailing facilities, condition, use, customers, and other important characteristics of the lines (including an opinion on the potential for abandonment/sale of each line and a preservation priority discussion). This information provides a valuable baseline of information for the current Rail Rapid Transit Study.

The study's Appendix B presents selected information (railroad line and mile post, street address, configuration, and average daily traffic count) from the Department of Public Works/DPW (formerly the Indianapolis Department of Capital Asset Management/DCAM) on rail/street interface points. DCAM catalogs 435 street rail interface points, including 287 at-grade intersections, 44 street overpasses, and 105 street underpasses. DCAM's database is far more extensive than the summary information presented in Appendix B; it includes as many as 142 data fields for each crossing. This rail/street data will be valuable in assessing the effects of transit options in the current Rapid Rail Study, notably, effects on traffic flow, safety, and definitions of suitable mitigation measures at such locations.

Changes: The 1995 study identifies Conrail as the predominant Indianapolis rail user. CSX Transportation subsequently acquired this trackage in Indianapolis. The study states that "Conrail's Indianapolis Line and St. Louis Line, together comprising the Cleveland-St. Louis route, are the only lines which should be considered absolutely

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secure from sale or abandonment.” This has also changed with Eli Lilly and Company’s proposal to abandon this line through the downtown area and shift its traffic to the Belt Line.

B. Downtown Indianapolis Transit Center Study

The Department of Metropolitan Development published the Downtown transit center study in January 1998. The study defines a need for the center to support IndyGo’s transit service plan and evaluates 26 potential downtown sites based on a series of criteria. Four finalist sites were ranked in order of preference: W (State-owned parking lot immediately north of and adjacent to the state Capitol Building); G (County-owned parking lot immediately north of and adjacent to the Marion County Jail); H (Virginia Avenue between Maryland and Washington Streets); and X (former, vacant Greyhound bus terminal building). The study conclusion notes that “there are numerous external development factors associated with each of the locations which would influence the final site selection and implementation decision.”

Change: “Indianapolis is receiving \$3.18 million—it sought \$4 million—for a Downtown bus center for IndyGo that could be built next to Union Station,” according to a January 2, 2002 *Indianapolis Star* article reporting federal budget allocations. The article further comments that “the center is expected to make bus transferring easier as well as tie the bus system into proposed light rail lines along the northeast corridor or to the airport.” Currently, additional sites are being considered south of the downtown that may serve future transit system plans.

C. Regional Mass Transit Service Plan for Central Indiana

This 1999 study for a regional mass transit service plan was prepared for the Central Indiana Regional Transit Alliance (CIRTA), a consortium of the city of Indianapolis and 17 area cities and counties. The plan, which was coordinated with the “Transportation and Land Use Vision Plan” and the Northeast Corridor ConNECTIONS study, proposes a number of measures to address congestion and air quality problems and to enhance mobility and economic development opportunities through multimodal transportation improvements.

The proposed improvements include: expansion of IndyGo bus service (including cross-county routing, transit centers, park-and-ride services, enhanced technology, etc.); countywide demand responsive transit services; a vanpool initiative; flex-route service to link regional counties with IndyGo; bike/pedestrian linkages with transit; preservation of rail corridors for future passenger and/or recreational use; “continued exploration of rail and high-capacity transit alternatives;” and support of transit-oriented development. Cost and funding issues, as well as implementation measures, are also addressed.

The study prioritizes its rail corridor preservation recommendations into two categories for “high capacity options,” defined as exclusive busway, light rail, commuter rail, and heavy rail, (plus two additional categories for bike/pedestrian use). The “high priority” rail corridors proposed for future rail use are: the northeast Indiana Railroad Museum line; the south Louisville & Indiana railroad line; and the west/northwest CSX Crawfordsville Branch line as far as Brownsburg. The “medium priority” corridors to be monitored for future rail use are: the northeast CSX Crawford line to Anderson, plus a short segment of the CSX Hunter Indiana Track inside the Belt Line tracks; the southeast CSX Shelbyville Sec.; the south Indiana Railroad Co. to Bloomington; the southwest Indiana Southern Railroad to Martinsville; and a short segment of the CSX Crawfordsville Branch west of Brownsburg. Appendix G presents a detailed review of the region’s rail resources. This information can be used in defining opportunities for the current Rapid Transit Study.

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The study suggests that near-term expansions in transit service can be accommodated by interlocal cooperation agreements, but that ultimately, use of such agreements will become too cumbersome, which will prompt a regional solution. The study recommends a Regional Transit Authority (RTA) as the most likely tool to provide for the regional coordination of transportation services, since it is well established in Indiana statute. Under this scenario the RTA would be responsible for managing cross-county services and for recommending “an appropriate equitable funding source to the legislature.” This funding issue was among the items that caused the Indianapolis City-County Council to balk at approving an RTA, approved by surrounding communities, prior to the start of the Regional Mass Transit Service Plan. The RTA authorization currently languishes in the Council’s rules committee.

Change: The Eli Lilly Co. proposal to reroute freight and Amtrak traffic on the Belt Line around downtown means that Amtrak and future high-speed rail (Midwest Regional Rail Initiative) is proposed to move from downtown’s Union Station to the airport vicinity. Under this scenario, the CSX Crawfordsville Branch trackage, which accesses the airport on its north side, will be needed for through Amtrak and high-speed rail service west of the Belt Line. High capacity transit operations could be entertained for this trackage east of the Belt Line, and possibly parallel high-capacity transit operations could be entertained along parts of the trackage west of the Belt Line. A variation on this scenario would be to reroute only the freight traffic around downtown and keep the Amtrak and future high-speed rail service downtown at Union Station, removing some but perhaps not all of the elevated downtown trackage.

D. Central Indiana Transportation and Land Use Vision Plan

The January 2000 Citizens League Vision Plan notes that growth in Central Indiana over the last 15 years has resulted in “dramatic increases in traffic congestion and rising concerns for workers’ limited mobility, access to jobs, loss of open space, and vehicle-based ozone pollution levels that threaten economic growth.” The Vision Plan calls for re-thinking Central Indiana’s transportation system, which has been largely focused on highways in recent decades, and creating “a truly multimodal transportation system designed to reduce congestion and increase mobility for all.” The Citizens League goal for the region is to achieve “a variety of environmentally-sound choices, solutions, and policies, and at publicly acceptable costs.”

The plan finds that while congestion is most serious in the northeast corridor, it will spread to other areas, such as “the I-65/Madison/Meridian corridor south into Johnson County and the I-70/US 40/US 36 corridor into Hendricks County.” The study notes that while the area “was historically served by an extensive regional system of trolleys and interurban lines,” regional development patterns of late “have been greatly influenced by an almost exclusive reliance on the automobile to meet regional transportation needs.”

The plan proposes a seven-point vision addressing: a multimodal transportation system; easier access; transit corridors development; mixed-use compact development; urban centers; open spaces; and integration with local plans. “The focal point of the Vision Plan is a transportation system that integrates good roadways with efficient and comprehensive mass transit options to help more citizens travel well in years to come.” The transit options envisioned are “light rail trains, local shuttle and bus service, inter-community bus connections, and park and ride options.”

Five transportation strategies and six land-use strategies were chosen based on input from residents of the region to support the seven-point vision. Among these strategies, the first is light rail for which the Citizens League states: “we recommend the development of and use of light rail trains . . . as an efficient and congestion-reducing mode of transportation in Central Indiana.” Another strategy is the inclusion of express buses, which are noted as “especially

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important for communities in which light rail will not be a viable option.” Another strategy is transit plans, for which the Citizens League states: “we recommend that a mutually created and coordinated regional transit plan be developed.” To achieve its adequate-stable-funding strategy, the Citizens League notes that its research indicates “that the most effective funding structures utilized in other recently-developed, region-wide transportation systems include user fees combined with a local or regional sales or gas tax *dedicated to specific transit and transportation objectives.*” In addition, the Citizens League suggests that a zoning-for-transit strategy be pursued so “that zoning for residential and commercial development along major transit corridors be of a higher density and with a greater focus on strategic development than would otherwise apply.”

The Indianapolis Metropolitan Area Rapid Transit Study addresses the Vision Plan strategy to develop “a mutually created and coordinated regional transit plan.” The Vision Plan’s strategies and principles provide a framework and planning guide for making decisions during the development of the Indianapolis Metropolitan Area Rapid Transit Study.

E. Indiana Passenger Rail Study, Phase Two – Final Report

This May 12, 2000 final report on Indiana passenger rail prepared for the Indiana Department of Transportation (INDOT) addresses Phase Two intercity rail in four corridors, three of which tie to Indianapolis, namely: a link to Fort Wayne (with a continuation to Chicago); a link to Evansville via Terre Haute; and a link to Louisville. These Phase Two corridors are a second priority following the Midwest Regional Rail Initiative, which notably involves Indianapolis in a high-speed rail link to Chicago via Lafayette and a continuation beyond Indianapolis to Cincinnati. [The Indiana Rail Plan defines the Louisville link as part of the Midwest Regional Rail Initiative.]

The intercity passenger rail study eliminated: electrically powered equipment (because of the high capital cost needed for its supporting infrastructure); Federal Railroad Administration (FRA) non-compliant vehicles (because such vehicles are required to operate under strict time separation from freight and Amtrak services; and diesel multiple units (DMUs) (because of the current uncertainty of availability of new compliant vehicles or sufficient older cars suitable for rebuilding). Locomotive-powered trains are recommended where the typical consist would involve a 3,000 hp diesel electric locomotive, three bi-level passenger coaches and a cab car, which would allow for push-pull operation. Also, consideration of grade crossing improvements is recommended.

Five funding scenarios were considered assuming three-train-service per day. The capital cost of the 122-mile Indianapolis-Fort Wayne line is estimated to be \$45.4 million; its annual operating subsidy is projected at \$8 million; and the line is expected to have significant potential freight conflicts. The capital cost of the 181-mile Indianapolis-Terre Haute-Evansville line is estimated at \$53.6 million; its annual operating subsidy is projected at \$10.3 million; and the line is also expected to have significant potential freight conflicts. The capital cost of the 109-mile Indianapolis-Louisville line is \$139.9 million; its annual operating subsidy is projected at \$8.1 million; and the line is expected to have low potential freight conflicts.

Three key implementation challenges are identified: coordination among passenger rail services and initiatives; arranging use of privately-owned freight railroad trackage; and out-of-state terminal access, especially in Chicago. Capital funding availability and operating subsidies also must be secured.

The intercity services proposed in this study extend well beyond the scope of the Indianapolis Metropolitan Area Rapid Transit Study. However, the current Rapid Transit Study will need to allow for a viable intercity passenger rail

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network in the Indianapolis area. Like freight trackage requirements, Amtrak and/or high-speed rail (Midwest Regional Rail Initiative), as well as these potential intercity services will require usable corridors and trackage. These passenger services will all need to serve a single terminal (to facilitate transferring, etc.), which historically was located downtown (Union Station) and could move to the airport under one scenario.

F. Update of the Indianapolis Regional Transportation Plan for 2025

The Metropolitan Planning Organization's (MPO's) June 2001 regional transportation plan update for the Indianapolis region addresses multiple modes and is intended as a guide for transportation investments over the next 25 years. It is expected to be updated every three years and to be amended as changing conditions warrant, notably to reflect 2000 Census data in the next update. The 2025 plan update conforms to air quality requirements for the area and reflects consideration of federal funding requirements. The primary product of the plan is a list of cost-feasible transportation projects. Projects are considered in four categories: maintenance; preservation, improvement and enhancement; expansion; and performance. Projects are further classified into five-year timeframes as urban, state, or rural and funded or un-funded projects. Through 2025, the plan programs \$400 million in urban and rural projects; \$2.74 billion in state projects, for a total, including other special projects, of \$3.1 billion. Additional un-funded projects are also discussed in the plan.

The 2025 regional transportation plan update provides valuable information on transportation improvements programmed for the region that will be useful in defining transit options, their effects, and mitigation measures for the current Rapid Transit Study. When the Rapid Transit Study is completed and approved, its recommendations can become part of an update or amendment to the regional transportation plan.

G. Initial Response to Key Issues

The Initial Response to Key Issues document is a December 2001 product of the Northeast Corridor ConNECTIONS study prepared in response to Policy Steering Committee directives and public hearing comments. The document presents information on diesel multiple units (DMUs) and the RegioSprinter DMU. Section 3 – Regional System of this document presents a preliminary downtown-to-airport access discussion. The advantages and disadvantages of the CSX Crawfordsville Branch on the north side of the airport (which accommodates 12 freight trains per day, Amtrak, and is proposed to accommodate high-speed rail) are discussed along with the advantages and disadvantages of the Indiana Southern Railroad on the south side of the airport (which accommodates one freight train daily). Existing and proposed job concentrations on the north and south sides of the airport are also noted. A conceptual diagram is included showing north and south surface access options extending from the east around to the west, as well as north, south, and up-the-middle tunnel access options extending from the east, to the midfield terminal, scheduled to open in 2007.

Change: Amtrak and high-speed rail (Midwest Regional Rail Initiative) could move (along with Greyhound) to the airport (although probably not to the midfield terminal) if the Eli Lilly Company proposal advances to reroute freight and Amtrak traffic on the Belt Line around downtown. Under this scenario, the CSX Crawfordsville Branch trackage, which accesses the airport on its north side, will be needed for Amtrak and high-speed rail service (plus freight) west of the Belt Line to link with the airport. The volume of freight, Amtrak, and proposed high-speed rail traffic on the CSX Crawfordsville Branch trackage is too great to also accommodate the rapid transit service, which will need to serve both the new intercity train terminal and the airport. Therefore, high capacity transit operations could be entertained for this branch line east of the Belt Line, and possibly parallel to parts of the trackage west of the Belt Line.

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H. Indiana Rail Plan

The October 2002 Indiana Rail Plan was issued by the Multi-Modal Transportation Division of the Indiana Department of Transportation (INDOT). The document addresses both passenger and freight rail service in the state. It discusses Amtrak service, noting that all of its service in Indianapolis occurs between midnight and 4 a.m. Amtrak employs 1,233 Indiana residents, the majority of whom work at the Beech Grove Maintenance Facility. Amtrak operated two trains per day to Indianapolis in 2000 and served 20,958 persons that year and 19,012 persons in 2001.

The report discusses the Midwest Regional Rail Initiative, noting that the 3,000-mile network with trains operating at speeds up to 110 mph will cost \$4.1 billion to build and that forecasted revenues will be sufficient to cover annual operating costs. Train speeds will be increased by “state-of-the-art train communication and control systems, highway/railroad grade crossing safety enhancements, and rehabilitation of existing and construction of new track and sidings.” More frequent service will also be offered. “Travel of 150 to 300 miles is the distance at which high-speed trains compete most effectively with both the automobile and the airlines.” Benefits of the service include: “comfortable travel with minimal pollution; reduced congestion and energy consumption; ability to work or relax while traveling; . . . and efficient utilization of various travel modes due to intermodal connectivity with buses, airports, and local transit systems.”

The report notes that “the interests of [the] freight railroads must always be kept in the forefront to assure that any plans do not cause any negative impact for the freight service. . . . Ideally, improvements to the tracks should provide benefits to both the freight and passenger operations.” The document further states: “the most direct benefit to the state can be realized by first improving service on the Chicago-Indianapolis corridor.”

The report also references completion of the Lafayette, Indiana railroad/highway grade crossing elimination projects, one of the largest such projects in the United States. A total of 42 grade crossings and a section of street running track were eliminated involving two Norfolk Southern and one CSX line (also used by Amtrak).

The report includes information on railroad safety, noting a “significant” decrease in highway/railroad grade crossing accidents across the state during the study period. A listing of useful definitions of railroad terminology is included in Appendix A. The report includes valuable information on passenger rail operations and potential that can assist in preparing the Indianapolis Metropolitan Area Rapid Transit Study.

III. RECOMMENDATIONS

The eight documents reviewed above provide useful information to prepare the Indianapolis Metropolitan Area Rapid Transit Study. The 1995 Indianapolis comprehensive rail study corridors and the “high” and “medium priority” candidate rail corridors for preservation identified in the 1999 regional mass transit service plan need to be carefully evaluated in the current Rapid Transit Study. Further, in the context of changing rail and transit conditions in Indianapolis, the eight documents suggest at least one option suitable for consideration in defining a regional multimodal network, as follows:

If the *intercity* rail hub (including the Greyhound bus lines) is to be moved to the airport from Union Station downtown, a downtown *intracity* hub near Union Station needs to be built to accommodate an Indianapolis rapid transit network,

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as well as the IndyGo bus transfer center; and vacated CSX trackage right-of-way needs to be made available for rapid transit use.

If Amtrak and Greyhound are relocated to the airport area, a fast “rapid transit” line needs to link such a new terminal directly to the downtown (Union Station) *intracity* hub, as well as to the new midfield airline terminal. Also, the new *intercity* terminal hub needs to be expandable to accommodate high-speed rail service as proposed in the Midwest Regional Rail Initiative. To accommodate both through Amtrak and future through high-speed rail service on existing rail lines, the new rail terminal will need to be located on the CSX Crawfordsville Branch line along the north side of the airport.

For CSX to move to the Belt Line (eliminating freight trains through Union Station and downtown), some track improvements may be needed and a major effort may be needed to eliminate most, if not all, of the at-grade crossings on the Belt Line. The Lafayette multi-year grade-crossing elimination project sets an example for the kind of effort that might be considered for Indianapolis.