



INDIANAPOLIS
METROPOLITAN PLANNING
ORGANIZATION

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Financial Analysis Report

Indianapolis Metropolitan Area Rapid Transit Study



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1.0 INTRODUCTION

Throughout the development of the Indianapolis Regional Rapid Transit Study, the MPO has insisted upon a continuing analysis of capital and operating costs for all modes of public transportation operating in regional Indianapolis, as well as the revenues required to support the proposed long-range, continued development of transit in this multi-county region. Early work centered on study of a 45-mile, fixed-guideway-transit system that would provide service primarily to the Northeast corridor. This system would provide service from Indianapolis to the Northeast including both Fishers and Carmel, to the West including both Avon and the International Airport, and South to Greenwood.

Alternative Technologies under consideration for the fixed guideway transit system included Automated Guideway Transit (AGT), Light Rail Transit (LRT), and Bus Rapid Transit (BRT).

2.0 CASH FLOW MODEL

The cash flow model (CFM) used in this financial analysis reflects an “all in” approach. This means that the analysis accounts for all capital and operating and maintenance (O&M) costs for all current transit modes including bus and paratransit and for all proposed future transit systems including rapid transit, express and feeder buses, and other transit enhancements. In addition, the analysis includes historic data and projections of all current and potential sources of revenues including fare box, grants, taxes, and innovative funding mechanisms. This information includes at least 5 years of historical data on existing systems as well as projections for all systems over the next 20 years.

In addition to conducting financial analyses on RTS systems of various lengths and technologies, a number of sensitivity studies were carried out on other factors including escalation rates for O&M cost, fare box revenue escalation policy, construction time, and levels of federal participation. With the exception of Local Tax, all other factors included in the CFM showed projections of either annual costs or revenues associated with the characteristics of the transit configuration under analysis. While other costs and revenues were estimated, the Local Tax required to balance the CFM was calculated. The CFM was considered balanced when the Ending Balance for the final year of construction was barely positive. Grant Anticipation Notes or Short-term Bonds could be used to fund negative ending balances occurring in earlier construction years. However, in models run with bond financing, the decision rule for determining the minimum required Local Tax was no negative ending balance through the final year of debt service. Bond financing normally will require several issues over the construction time frame. Thus, as earlier bond issues are retired, the required debt service decreases so that, in the last few years, the Local Tax required may be eliminated while continuing to maintain a positive ending balance.

The mechanics of running individual scenarios in the CFM requires that all data be entered into the Constant Dollar table. The Year-of-Expenditure table then appropriately escalates all data and makes the necessary calculations.

3.0 ESTIMATED CASH YIELD BY FUNDING SOURCE

The MPO, through its Indianapolis Transit Consultants (ITC) team member firm, Barnes & Thornburg, has identified a number of potentially viable local fund sources. This viability has been judged on a legal, as well as on a practical (political) basis. Six potential sources of local funds are presented in Table 5, along with the level of yield of the fund source to produce \$10M a year in local share transit match, termed Local Tax in the CFM. In

Tables 1 and 2, for each scenario presented, the amount of levy needed to generate the Local Tax is presented for each of five different sources.

4.0 CRITICAL FINANCIAL ANALYSES ASSUMPTION

A number of critical assumptions underpin the above-described financial analyses. Some of the more important of these are presented as follows:

1. Regional growth rate - Population data on the Indiana.gov website listed 2000 populations and 2030 projections for each of the 9 counties in the Indianapolis Region. These data yielded an anticipated annual growth rate of 0.48%.
2. Consumer Price Growth Rate - The value used in the Cash flow model (CFM) is 3% per year. However, data from the Bureau of Labor Statistics (referenced to Chicago) showed a growth rate of 2.26% per year over the five-year period from mid-1999 to mid-2004.
3. Construction Cost Growth rate - The value used in the CFM is 3.66% per year. In the five years from 1998 to 2003, the average growth rate was 2.52%. However, the growth rate from 2003 to 2004 was 7.76% largely due to rapid cost increases for steel, lumber, and cement. These prices have moderated such that growth in the final 3 months of 2004 was 0.55% per year. But the ENR forecast for growth in the Construction Cost Index through the end of 2005 will be about 3.5% per year.
4. Return on Investment – The CFM used a value of 2.95% per year. Positive year-end cash balances in the CFM are invested at this rate. Negative year-end cash balances mean that short-term loans (Grant Anticipation Notes (GANS)) may be needed or perhaps a bond issue must be sold.
5. Bonding rates – Bonds are assumed to be 15- or 30-year bonds at 5% interest. The first two years of interest are capitalized for each issue. A continuing look is needed at municipal bond rates and terms in the Indianapolis region.
6. Bus O&M costs – The CFM assumes an annual growth rate of 1.25 times the Consumer Price growth rate for bus O&M. The CFM uses a growth rate of 3.75% for bus operations – a rate higher than the Construction cost growth rate. On the other hand, argument for such a high growth is based on large labor wage settlements in the bus transit industry at-large.
7. Fare – The assumption that fares will remain unchanged is unrealistic. Supposedly, the last fare increase by IndyGo was in 1988 when fares were raised to \$1.00. However, bus fares were raised to \$1.25 starting in April 2004. Probably, bus fares should increase by the Consumer Price growth rate, but perhaps not enacted but every few years. A fare policy needs to be developed. In the CFM, fare box revenues are increased annually using only population growth rate as a factor. This comment applies equally to the selected rapid transit technology. During sensitivity analyses, fares were increased to \$1.25 and, in some cases, escalated at the CPI growth rate.
8. Practicality, Predictability, and Stability of Revenues – There should be a thorough study of the practicality, predictability, and stability of all revenue sources; particularly those based on tax and user fee structures.
9. Capital Costs – The assumptions regarding capital cost data for all technologies should be reviewed, periodically.
10. TIFs – More research is needed if Tax Increment Financing (TIF) is considered a viable funding mechanism.
11. IndyGo Liabilities – Study is needed as to how IndyGo liabilities to the FTA and the City of Indianapolis should be handled in the CFM.
12. Gasoline Taxes – The CFM escalates Federal funds by the Consumer Price Index based on the possibility that Congress will approve automatic indexing of the gas tax using the CPI.
13. Joint Development – A refined estimate of joint development revenues is required.

14. Advertising Revenues – Research is required to get a handle on prospective advertising revenues, particularly revenues due to branding of trainsets, stations, buses, bus shelters, and transit centers.

5.0 RAIL BUS INTEGRATION

The immediate objective of the Comprehensive Operational Analysis (COA) is to provide a cost effective public transportation system for the Indianapolis Region. The first step is to maximize the service of the current bus system. The next step is to add buses and infrastructure in a way which continues to improve system operations and which fosters full integration with the fixed guideway transit system as it comes on line. A detailed report on the COA was prepared as Tech Memo, "Transit Operations Plan," May 2005, Indianapolis Metropolitan Area Rapid Transit Study.

In order to proceed with the Financial Analysis, the COA study team was asked, in late 2004, to provide estimates of the number of buses required to fulfill coverage, feeder, and express bus service that could be considered as fully integrated with the seven corridors identified for the Rapid Transit System in the Indianapolis Region. The following information was supplied and utilized in financial analyses:

1. Near Term of 1-3 years	85 buses	(used 42)
2. Short Range of 8-10 years	140 buses	(used 70)
3. Long Range of 18-20 years	50 buses	(used 25)

This total of 275 new buses appeared too large especially when compared to the 311 new buses suggested for Premium Bus service in all seven corridors with no fixed guideway transit. Agreement was reached on using half of the 275 new buses or 137 as shown above. These 137 new buses when combined with the current IndyGo fleet of 138 yielded a long-term fleet size of 275 buses, the figure which appears in many of the financial analyses included in Tables 1 through 4. In the 24-year construction scenarios, one-third of the buses were purchased in each of the three years defining the Near-, Short-, and Long-terms. Replacement buses were scheduled for purchase after 12 years, the generally accepted life of transit buses. In 30-year construction scenarios, the purchase were spread out while in 18-year scenarios, the purchases were accelerated. For the 6-year scenario, all buses were purchased in the first year because construction started on all of the 7 corridors. The same sort of pattern was followed in dealing with O&M costs for fixed guideway systems as well as for fare box revenues for both bus and rapid transit systems. In longer scenarios, the largest O&M costs and fare box revenues were delayed while in shorter scenarios, these factors were accelerated.

The newly purchased buses will provide several types of service, some specifically in support of integration with the rapid transit system and the eventual development of a truly multimodal transportation system. In each of the three bus acquisition time frames, some buses will provide express service in the rapid transit corridors under construction in an attempt to simulate the service to be provided by the Rapid Transit lines when completed. Some buses will begin to provide feeder bus service to the express bus lines and ultimately to the rapid transit lines. Other buses will provide for new service lines providing background and coverage service. When a rapid transit corridor is completed, the express buses in that corridor will be transferred to other routes as needed.

6.0 RAIL BUS LONG RANGE EVOLUTION

The evolutionary process will allow for the optimization of the current system based on its resources and the service provided. The Rapid Transit program expects to have an optimal system of transportation modes in place after however many years (6, 18, 24, 30, or somewhere in between) are agreed to by the stakeholders

involved in the decision-making process. The evolutionary process will help define the efficient transportation of the optimized current system to the rail/bus system of the future. The several fixed-guideway construction phases will be coordinated with the acquisition of buses, and the development of transit-related infrastructure including rail stations, park and ride lots, bus stop shelters, highway and intersection improvements, transit centers, bicycle lanes and other needed improvements. Paramount concerns during the design, construction, and operation of this multimodal transportation system are the safety of everyone involved and the preservation of the environment.

7.0 EARLY FINANCIAL ANALYSIS RESULTS

Some results of early work in analyzing the financial feasibility of proposed 45-mile transit systems are shown in Table 1. One important result shows that AGT, when considering initial capital construction cost and long term maintenance and operating costs, requires the lowest amount of local support of the three alternatives considered (AGT, LRT, and BRT). The cost of AGT to the regional community amounts to about half the cost of BRT. The annualized cost of LRT to the region is much less than BRT but more than AGT. The operating efficiency of AGT, a direct result of low manpower requirements, accounts for this dramatic difference.

At a matching ratio of 60% FTA Section 5309 money and 40% local (with approximately 10% FHWA) money, this AGT 45-mile regional system will cost the Indianapolis community about \$30M per year. Note that Table 1 shows that \$30M per year may be raised by a sales tax increase of 0.15% or by a motor fuel tax increase of 2.6 cents per gallon. Some combination of both tax increases that yields \$30M per year may be used as well. If the federal matching ratio is reduced from 60% federal-40% local to 50% federal-50% local, the AGT 45-mile system described above will cost the residents of the multi-county region \$48M per year as opposed to \$30M a year at the higher federal matching ratio. (See Table 1, Lines 1 and 4.) Thus, a decision was made to conduct the next round of financial analyses with AGT technology. This does not imply any decision regarding the technology selected for the LPA.

8.0 EXTENDING THE REGIONAL SYSTEM TO 67 MILES

An immediate consequence of considering a 45-mile RTS was the realization that while each of the 9 Counties in the Indianapolis Region will be called upon to help fund the system, not all counties will be served by the system. In an effort to provide wider regional service, the 45-mile system under study was increased to 67 miles to provide penetration into all nine counties. A second system of 84 miles was developed to provide service to the most significant destination in each of the nine counties. Each financial analysis of 67- and 84-mile transit systems was conducted for AGT technology and a modified, enhanced bus fleet of 275 vehicles.

Tables 1 and 2 provide data on possible ways to raise the Local Tax Requirement by five methods. On the other hand, the purpose of Tables 3 and 4 is to document the impact on the required Local Tax of a number of Sensitivity Analysis runs. Reference to Table 3 shows, in Line 4, that a 45-mile AGT system in a 24-year construction program with a 50% FTA match, as stated earlier, requires a local match of \$48M per year. Extension of this system from 45 to 67 miles, while holding all other potential factors constant, shows, in line 7, that the Local Tax requirement increases from \$48M to \$70M per year. In other words, it is important to note that if all available FTA 5309 New Starts money (assumed to be \$70M per year in 2004 constant dollars) is matched, the 67-mile system can be built in 24 years - - but with increased local contributions.

In a 30-year construction timeframe (five 6-year construction periods matching the federal transit reauthorization cycle), the 67-mile system can be built with a local fund contribution of about \$60M per year.

As detailed in Table 3, all analyses of the 45-mile and 67-mile regional systems assume the following: (a) no escalation in fares (an overly conservative assumption); and (b) inflation rates for maintenance and operating costs which are far in excess of the projected increase in the Consumer Price Index (CPI) (also a conservative assumption). In summary, the 45-mile regional system (at 50% federal / 50% local fund match) may be built (and all transit systems operated) at a local cost of \$48M per year (see Tables 1 & 3, Line 4). If the 45-mile system is extended to 67 miles, the increase in local fund requirement is \$22M a year from \$48M per year to \$70M per year for 24 years. (See Table 3, Line 7.) Extending the construction program from 24 to 30 years, while all other assumptions remain constant, produces a Local Tax requirement of \$60M per year. (See Table 3, Line 8.)

9.0 EXTENDING THE REGIONAL SYSTEM TO 84 MILES

The 84-mile regional system provides for rapid transit service as follows: to Carmel and to Fishers in the north and northeast; to the northwest to Zionsville; to the west to Avon with a branch to the Airport and on to Plainfield; to the south to Greenwood; and to the east to Cumberland with a branch north to Lawrence. Rapid transit service to the southwest to Morgan County and to the southeast to Franklin and to Shelbyville is provided by enhanced bus rapid transit. This 84-mile regional system provides rapid transit service to the following: Hamilton County, Boone County, Hendricks County, Morgan and Shelby Counties (by way of enhanced bus), Johnson County and Hancock County in addition to Marion County, the core of the region.

The basic 84-mile system that provided the basis for most of the sensitivity analyses is shown on Table 4, Line 6, Run No. 50B. This system is characterized as follows: 84 miles; RTS cost of \$4.2B in constant 2004 dollars; enhanced 275 bus fleet; no FTA or FHWA funds; 30-year construction period; CPI*1.25 escalation rate on bus O&M; CPI escalation rate on RTS O&M; and no escalation of fares. This system required a Local Tax of \$144M per year for balancing purposes. The following illustrates the impact on Local Tax requirements as various factors are adjusted:

1. Table 4, Line 2. 50% FTA grant. Local Tax drops \$68M from \$144M to \$76M.
2. Table 4, Line 3. Escalate fare by CPI. Local Tax drops \$20M from \$76M to \$56M.
3. Table 4, Line 4. COA O&M escalation changes from CPI*1.25 to CPI. Local Tax drops \$3M from \$56M to \$53M.
4. Table 4, Line 5. IndyGo O&M escalation changes from CPI*1.25 to CPI. Local Tax drops \$4M from \$53M to \$49M.

Without a change in any underlying assumptions, the cost of an 84-mile system in a 30-year construction program using maximum assumed available FTA funding of \$70M per year is \$76M per year in local match (i.e., 50/50 match). Relaxing the assumption regarding fleet fares (that is, permitting fares to increase at a rate equal to the Consumer Price Index) yields a local cash requirement of \$56M per year for the 84-mile system. Additional reductions in O&M escalation rates – dropping the 1.25 factor – to the CPI rate dropped the Local Tax requirement to \$49M per year.

Reference to Table 4, Lines 6 and 9 show the impact on Local Tax that results from adjusting fares from the assumed \$1.00 to the current fare of \$1.25 established in April 2004. The Local Tax drops \$10M per year to \$134M per year. Line 1 on Table 4(Continued) shows the impact of adding \$70M of FTA funds and \$14M of FHWA funds. The Local Tax drops to \$57M per year from \$134M. Line 2 of Table 4(Continued) shows a drop of \$25M by escalating the fares by the CPI.

10.0 EXTENDING CONSTRUCTION DURATION TO 36 YEARS

Some sensitivity tests were carried out to assess the impact on the Local Tax requirement of extending the construction program to 36 years, equivalent to adding another six-year federal transportation reauthorization cycle. The sensitivity of local fund requirements to the second extension of the construction duration produces an 84-mile system at only a slightly smaller cost per year than the 84-mile regional system can be produced in the shorter (30-year) construction duration (\$67M/yr.vs\$76M/yr.). In testing the effect this additional six-year construction cycle has on local cash requirements, the model was reverted to all initial assumptions on cost escalation (1.25 multiplied CPI for buses) and fare escalation (0% escalation). The dramatically decreased beneficial impact on local share requirement of extending the construction program from 30-years to 36-years is a result of the phenomenon that the region would be increasing the base year tax (that is the tax in year 2004 constant dollars) to pay for highly inflated capital and operating costs in the out-years of the 36-year transit development program. In other words, the region would be accumulating "expensive" base year dollars to generate a surplus to be used to pay off out-year inflated (cheaper) dollars.

11.0 REDUCING CONSTRUCTION DURATION TO 18 YEARS

The 18-year construction program represents an effort to get the system built sooner than later. A CFM was built to analyze this scenario. Table 4(Continued), Line 3 represents an 18-year schedule with two modifications of initial assumptions. The fare box revenue was adjusted for the \$1.25 fare and escalated at the CPI rate. The run also included FTA grants of \$70M per year and FHWA grants of \$14M per year, both over 18 years and both in 2004 constant dollars. The Local Tax required to balance the CFM was \$141M per year, almost equivalent to the \$144M requirement for the basic case over 30 years with no modifications.

The other 18-year duration run was financed through a bonding model. In Line 4 of Table 4(Continued), financing was accomplished by selling six bond issues of 15 years duration each. The bond issues covered exactly the escalated construction cost of the RTS over the six 3-year periods of the 18-year construction schedule. Debt service was calculated using 5% annual interest over the 15-year life of each issue. In each issue, the first two years of interest were capitalized and the first debt service payment made at the end of the third year of issue. A 5% fee was charged for the very first issue and a 0.5% fee was charged for each subsequent issue. The Local Tax requirement was \$90M to cover debt service and to balance the CFM. In this bonding case (Run No. 72), the first debt service payment is due in 2009 while the first Local Tax is generated in 2006. For the Line 4 case, Run No. 72, the last Local Tax payment is in 2033 (28 years of payments) and the last debt service payment is in 2038 (33 years).

12.0 REDUCING CONSTRUCTION DURATION TO 6 YEARS

The 6-year construction program is proposed to encourage the citizenry to support a sizeable tax increase in order to have a full-blown transit system in operation as quickly as possible. The benefits of an in-place system will accrue to region residents and the entire region much sooner.

Two bonding plans were developed for the \$4.2B RTS to be constructed over 6 years. Line 5 of Table 4 (Continued) suggested two bond issues, each of 30 years duration. The bond issues covered exactly the escalated construction cost of the RTS over the two 3-year periods of the 6-year construction schedule. Debt service was calculated as described above for the 18-year system. The required Local Tax was \$146M per year to cover debt service and balance the CFM. Line 6 suggested two bond issues, each of 15 years duration. The required Local Tax amounted to \$228M per year to cover debt and balance the CFM. For the Line 5 case, Run No. 73, the last Local Tax payment is in 2036 (31 years) and the last debt service payment in 2041 (35 years).

For the Line 6 case, Run No. 74, the last Local Tax payment is in 2025 (20 years) and the last debt service payment is in 2026 (21 years).

13.0 PRELIMINARY CONCLUSIONS

It is concluded that a comprehensive regional rapid transit system (84-miles of AGT, coupled with enhanced bus service) can be developed in the multi-county Indianapolis region at reasonable cost to the region. For example, an 84-mile AGT system (supported by a system of regional express buses, feeder buses, and local service buses) could be built at a local match of \$49M per year (in base year, 2004, constant dollars). For example, the needed increase in the local option road user charge on fuels would be slightly over \$.04 per gallon, or a ¼ of 1% increase in sales tax would be required in the region. It is emphasized that the financial analyses described above include all costs to the region, including initial capital cost as well as continuing operation and maintenance cost for all elements of the regional transportation system (fixed guideway rapid transit, express bus rapid transit, background and feeder buses, and paratransit). In an environment when OPEC whimsically doubles the price of gas to American motorists, a self-imposed increase in \$.04 seems to be a reasonable investment in a regional rapid transit system, which will, among many other things, reduce dependence on foreign oil in the region.

Relative Importance of Assumptions: The financial analysis of any proposed scenario requires a number of assumptions. Several CFM runs were performed as sensitivity analyses to measure the impact of various assumptions as changes in them were made. Some impacts were substantial in comparison to others. As an example, consider the following scenario. The basic 84-mile system is the most restrictive with regard to assumptions e.g., no FTA funds and no escalation of fares. This basic model (Run No. 50B, Table 4, Line 6) shows a Local Tax requirement of \$144M per year to balance cash flow and provide a positive balance at the end of construction. This balance drops \$68M per year to \$76M by assuming a 50% construction match from FTA. The balance drops another \$20M to \$56M when fares are escalated by the CPI. The balance will drop another \$3M if O&M costs may more reasonably be escalated by the CPI rather than by 1.25 times the CPI rate. The assumptions are very important for performing an acceptable financial analysis as required by the FTA. The assumptions used must be carefully examined so they are as reasonable and accurate as possible.

Compressed Construction Programs: The Finance Subcommittee of the Indianapolis Regional Transportation Council requested that a compressed construction period (six years as well as 18 years) be studied as well as a scenario wherein all fixed guideway is funded with local-only dollars. A greater than normal federal participation level for bus and facilities is expected under this funding scenario. For these two compressed period alternatives (six years and 18 years) it was assumed fares would begin at the current level of IndyGo bus fares (\$1.25) and would escalate with population growth and with CPI. Additional assumptions associated with the sensitivity analysis of compressed implementation periods are that the current IndyGo bus fleet will experience an escalation in O&M costs of 1.25 times the CPI and that the O&M escalation experience for the expansion buses will also be 1.25 times the CPI. This supercharged O&M escalation reflects the industry experience in recent years of labor agreement settlements highly favorable to labor.

18-year Construction Program: Pay-As-You-Go: Under this scenario, and with the assumption of 60% FTA money (60% maximum or \$70M maximum) 10% FHWA flexible money (maximum of 10%), and at least 30% local money (minimum), an 84-mile regional system can be built at a local cost of \$141M/year in year 2004 constant dollars. This \$144M/year local dedicated transit fund can be produced by a sales tax of 0.71 cents on the dollar.

18-year Construction Program: 15-year Bonds: Under this scenario, an 84-mile regional rapid transit fixed guideway system can be built at a local cost of \$90M/year. This \$90M dedicated local fund source can be produced by a sales tax of 0.45 cents on the dollar. Keep in mind that while the annual local dedicated transit source requirement is lower in this scenario than in the Pay-As-You-Go scenario, the local tax must be left in place for approximately 15 additional years to complete debt service payments.

Six-Year Construction Program: 30-Year Bonds: The Finance Subcommittee asked that a highly compressed construction duration of six years be considered and that this shortest duration be coupled with the notion that there will be no federal assistance involved in the program. Under these assumptions, the local fund requirement is \$144M/year in year 2004 constant dollars. This amount of annual dedicated local transit funding can be produced by 0.72 cents on the dollar sales tax.

Six-Year Construction Program: 15-year Bonds: Under this scenario, the local fund requirement, the local fund requirement is \$226M/year in year 2000 constant dollars. This amount of local transit revenue may be generated by 1.13 cents on the dollar sales tax.

In Tables 1 and 2, the amount of tax required to generate the local dedicated funds from various sources is presented. It is most important to state that each local fund source, with the exception of the motor fuel user charge, may be assumed to escalate with inflation. For the motor fuel charge to be a viable transit-funding source, it (when enacted by the state legislature) must be indexed to track inflation (the CPI). The current versions of Tables 1 and 2 reflect a change over previous versions wherein a final column has been added which (should income tax be selected as the source of local funds) expresses required local income tax as a percent of the \$21,789.00 Indianapolis region average per capita income.

APPENDIX A

TABLE 1

INDIANAPOLIS REGIONAL RAPID TRANSIT STUDY (RTS)
 ANNUAL LOCAL TRANSIT FUNDING REQUIRED IN 2004 CONSTANT DOLLARS
 ALL-IN CAPITAL COSTS, O&M COSTS, REVENUES, GRANTS, AND TAXES
 45-MILE SYSTEM CONSTRUCTED IN 24 YEARS – PAY AS YOU GO

RTS	CAPITAL COST (Millions)		KEY ASSUMPTIONS			LOCAL FUNDS REQUIRED ANNUALLY (2004 dollars)	TAX REQUIRED (only one source required)					INCOME TAX (expressed as a % of \$21,789 average per capita income)
	BUS	RAPID TRANSIT	FTA NEW STARTS MATCH	BUS FLEET SIZE ⁽¹⁾	CFM RUN NO.		SALES TAX %	MOTOR FUEL TAX ¢/gal.	INCOME TAX \$/Person	MOTOR VEH. FEE ⁽³⁾ \$/Vehicle	TAX INCREMENT FINANCING ⁽²⁾	
AGT	\$395	\$2,250	60% (5)	275	36	\$30,000,000	0.15	2.6	18.72	19.44	<1/2 mile	0.07%
LRT	\$395	\$2,250	60% (5)	275	39	\$35,000,000	0.175	3.1	21.84	22.68	<1/2 mile	0.09%
BRT	\$521	\$1,553	60% (5)	452	45	\$52,000,000	0.26	4.6	32.45	33.70	>1/2 mile	0.13%
AGT	\$395	\$2,250	50%	275	41	\$48,000,000 ⁽⁴⁾	0.24	3.9	29.95	31.10	>1/2 mile	0.13%
LRT	\$395	\$2,250	50%	275	42	\$53,000,000 ⁽⁴⁾	0.265	4.7	33.07	34.34	>>1/2 mile	0.14%
BRT	\$521	\$1,553	50%	452	46	\$64,000,000	0.32	5.6	39.94	41.47	>>1/2 mile	0.18%

⁽¹⁾ Current (2004) IndyGo Fleet Size is 138 buses.

⁽²⁾ TIF is not a new tax but a partitioning of tax growth due to transit improvements.

⁽³⁾ Not a new tax but added user charge applying only to users of a multimodal transportation system.

⁽⁴⁾ A multimodal, fully integrated transit system will carry about 2/3 more patrons than an all bus system.

⁽⁵⁾ 60% FTA Section 5309 with the 40% match made up of 30% local and 10% FHWA flexible highway monies.

TABLE 2
INDIANAPOLIS REGIONAL RAPID TRANSIT STUDY (RTS)
ANNUAL LOCAL TRANSIT FUNDING REQUIRED IN 2004 CONSTANT DOLLARS
ALL-IN CAPITAL COSTS, O&M COSTS, REVENUES, GRANTS, AND TAXES
AGT TECHNOLOGY, 84-MILE SYSTEM, 275 BUS FLEET

RTS	CAPITAL COST (Millions)		KEY ASSUMPTIONS			LOCAL FUNDS REQUIRED ANNUALLY (2004 dollars)	TAX REQUIRED					INCOME TAX (expressed as a % of \$21,789 average per capita income)
	BUS	RAPID TRANSIT	FTA NEW STARTS MATCH	YEARS OF CONST.	CFM RUN NO.		SALES TAX %	MOTOR FUEL TAX ¢/gal.	INCOME TAX \$/Person	MOTOR VEH. FEE \$/Vehicle	TAX INCREMENT FINANCING	
AGT	\$395	\$4,200	\$0-FTA \$0-FHWA	30	64	\$134,000,000 (pay as you go)	0.67	11.8	83.62	86.83	>>1/2 mile	0.30%
AGT	\$395	\$4,200	\$70M-FTA \$14M FHWA	18	68	\$141,000,000 (pay as you go)	0.71	12.41	87.98	91.37	>>1/2 mile	0.41%
AGT	\$395	\$4,200	\$70M-FTA \$14M-FHWA	18	72	\$90,000,000 (15 year bonds)	0.45	7.90	56.16	58.32	>>1/2 mile	0.26%
AGT	\$395	\$4,200	\$0-FTA \$0-FHWA	6	73	\$144,000,000 (30 year bonds)	0.72	12.67	89.86	93.31	>>1/2 mile	0.42%
AGT	\$395	\$4,200	\$0-FTA \$0-FHWA	6	74	\$226,000,000 (15 year bonds)	1.13	19.89	141.02	146.45	>>1/2 mile	0.65%

TABLE 3

**INDIANAPOLIS REGIONAL RAPID TRANSIT STUDY (RTS)
ANNUAL LOCAL TRANSIT FUNDING REQUIRED IN 2004 CONSTANT DOLLARS
ALL-IN CAPITAL COSTS, O&M COSTS, REVENUES, GRANTS, AND TAXES
FOR VARYING SYSTEM LENGTHS, CONSTRUCTION DURATIONS, PAY-AS-YOU-GO FUNDING**

RTS	CAPITAL COST		KEY ASSUMPTIONS				LOCAL FUNDS REQUIRED ANNUALLY (2004 dollars)	SENSITIVITY TESTING OF CRITICAL ESCALATION RATES				ENDING BALANCE
	BUS	RAPID TRANSIT	FTA NEW STARTS MATCH	BUS FLEET SIZE	YEARS OF CONST.	CFM RUN NO.		RTS	COA	INDYGO	FARE BOX	
LENGTH OF TRANSIT LINE - 45 MILES												
AGT	\$395	\$2,250	60% (1)	275	24	36	\$30,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE
LRT	\$395	\$2,250	60% (1)	275	24	39	\$35,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE
BRT	\$521	\$1,553	60% (1)	452	24	45	\$52,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE
AGT	\$395	\$2,250	50%	275	24	41	\$48,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE
LRT	\$395	\$2,250	50%	275	24	42	\$53,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE
BRT	\$521	\$1,553	50%	452	24	46	\$64,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE
LENGTH OF TRANSIT LINE - 67 MILES												
AGT	\$395	\$3,360	50%	275	24	61	\$70,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE
AGT	\$395	\$3,360	50%	275	30	60B	\$62,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE

(1) 60% FTA Section 5309 with the 40% match made up of 30% local and 10% FHWA flexible highway monies.

TABLE 4

**INDIANAPOLIS REGIONAL RAPID TRANSIT STUDY (RTS)
ANNUAL LOCAL TRANSIT FUNDING REQUIRED IN 2004 CONSTANT DOLLARS
ALL-IN CAPITAL COSTS, O&M COSTS, REVENUES, GRANTS, AND TAXES
AGT TECHNOLOGY, 84-MILE SYSTEM, 275 BUS FLEET**

RTS	CAPITAL COST		KEY ASSUMPTIONS			LOCAL FUNDS REQUIRED ANNUALLY (Constant 2004 Dollars)	SENSITIVITY TESTING OF CRITICAL ESCALATION RATES				ENDING BALANCE
	BUS \$MIL	RAPID TRANSIT MIL	FTA NEW STARTS MATCH	YEARS OF CONST.	CFM RUN NO.		RTS	COA	INDYGO	FARE BOX	
AGT	\$395	\$4,200	50%	36	59	\$67,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE
AGT	\$395	\$4,200	50%	30	50B	\$76,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE
AGT	\$395	\$4,200	50%	30	52B	\$56,000,000	CPI	CPI*1.25	CPI*1.25	CPI	NONE
AGT	\$395	\$4,200	50%	30	53B	\$53,000,000	CPI	CPI	CPI*1.25	CPI	NONE
AGT	\$395	\$4,200	50%	30	54B	\$49,000,000	CPI	CPI	CPI	CPI	NONE
AGT	\$395	\$4,200	0%	30	50B	\$144,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE
AGT	\$395	\$4,200	0%(6 yrs) 50%(24yrs)	Yrs 0-6 Yrs 7-30	50B	\$144,000,000 \$74,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE
AGT	\$395	\$4,200	50%(6 yrs) 0%^24 yrs)	Yrs 0-6 Yrs 7-30	50B	\$74,000,000 \$144,000,000	CPI	CPI*1.25	CPI*1.25	NONE	NONE
AGT	\$395	\$4,200	0%	30	64	\$134,000,000	CPI	CPI*1.25	CPI*1.25	RAISE TO \$1.25	NONE

TABLE 4 (CONTINUED)

INDIANAPOLIS REGIONAL RAPID TRANSIT STUDY (RTS)
 ANNUAL LOCAL TRANSIT FUNDING REQUIRED IN 2004 CONSTANT DOLLARS
 ALL-IN CAPITAL COSTS, O&M COSTS, REVENUES, GRANTS, AND TAXES
 AGT TECHNOLOGY, 84-MILE SYSTEM, 275 BUS FLEET

RTS	CAPITAL COST		KEY ASSUMPTIONS			LOCAL FUNDS REQUIRED ANNUALLY (Constant 2004 Dollars)	SENSITIVITY TESTING OF CRITICAL ESCALATION RATES				ENDING BALANCE
	BUS \$MIL	RAPID TRANSIT MIL	FTA NEW STARTS MATCH	YEARS OF CONST.	CFM RUN NO.		RTS	COA	INDYGO	FARE BOX	
AGT	\$395	\$4,200	\$70M-FTA \$14M-FHWA	30	66B	\$57,000,000	CPI	CPI*1.25	CPI*1.25	RAISE TO \$1.25	NONE
AGT	\$395	\$4,200	\$70M-FTA \$14M-FHWA	30	67B	\$32,000,000	CPI	CPI*1.25	CPI*1.25	RAISE TO \$1.25 CPI	NONE
AGT	\$395	\$4,200	\$70M-FTA \$14M-FHWA	18	68	\$141,000,000	CPI	CPI*1.25	CPI*1.25	RAISE TO \$1.25 CPI	NONE
AGT	\$395	\$4,200	\$70M-FTA \$14M-FHWA	18	72	\$90,000,000 (15 year bonds)	CPI	CPI*1.25	CPI*1.25	RAISE TO \$1.25 CPI	NONE
AGT	\$395	\$4,200	\$0M-FTA \$0M-FHWA	6	73	\$144,000,000 (30 year bonds)	CPI	CPI*1.25	CPI*1.25	RAISE TO \$1.25 CPI	NONE
AGT	\$395	\$4,200	\$0M-FTA \$0M-FHWA	6	74	\$226,000,000 (15 year bonds)	CPI	CPI*1.25	CPI*1.25	RAISE TO \$1.25 CPI	NONE

TABLE 5

**INDIANAPOLIS REGIONAL RAPID TRANSIT STUDY (RTS)
POTENTIAL SOURCE OF DESIGNATED LOCAL FUNDING FOR PUBLIC TRANSPORTATION
ESTIMATED CASH YIELD BY FUNDING SOURCE
IN ALL 9 COUNTIES OF THE INDIANAPOLIS REGION**

ESTIMATE OF AMOUNT RAISED FOR OPTIONAL LOCAL MATCH OPPORTUNITIES		
Local Tax Option	Tax or Transportation System User Charge Rate	Amount Raised
1. Sales Tax	0.05%	\$10M/year
2. Motor Fuel User Charge	0.88 cents per gal.	\$10M/year
3. Income Tax	\$6.24/Person	\$10M/year
4. Motor Vehicle User Charge	\$6.48 per Vehicle	\$10M/year
5. TIF ^{(1) (2)}	Within ½ mile of Station	\$33M/year
6. R-O-W Donations ⁽³⁾	Gifts	\$4M/year
7. JD/VC/Branding ⁽³⁾	Business Agreements	\$8.5M/year

Footnotes:

⁽¹⁾ TIF is not a new tax, simply a partitioning out of the measurable increment or increase in yield of the existing property tax that is generated by the public improvement (the rapid transit system). The ½ mile is the radius of a circle (measured from the center of a rapid transit station) constituting the size of the TIF District at each station.

⁽²⁾ Debt Instruments (bonds, GANS, GARVEEs) issued with annual TIF District revenues as the source of debt service payments will likely require a guarantee (or back up) from another (more stable) source such as out year Federal Highway funds which will flow to local and state governments – the expectation would be that such a pledge would never be call into use.

⁽³⁾ These sources of local funds will be applied with any new designated local Public Transit Funding (Items 1 through 5 above or other(s))