Chapter VI

Analysis of the Capacity of Industry To Respond to Major Changes in the Transit Program

This chapter comprises an assessment of the capacity of the transit industry and its principal suppliers to respond to major changes in the transit program, and estimates the employment impacts of such major changes in the industry. Major changes in the transit program are described in terms of changes in the levels of operating and capital assistance.

Chapter VI completes the discussion of the relationship of transit and the economy. Subsequent chapters examine transit and energy and national policy issues.

INTRODUCTION

In order to determine the effects of major program changes on the transit industry, the analysis was directed toward answering the following questions:

(a) What industries are most affected by the transit industry and by changes in the level of transit operations or capital investments?

(b) What is the current condition of these industries?

(c) How would employment in these industries be affected by major changes in the funding levels for transit operations and capital investments?

(d) To what extent would these industries be hurt by cutbacks in transit operations? Capital investment?

(e) To what extent could these industries respond to decisions to significantly expand current levels of transit operations and capital investments? What are the current limitations on expansion capability?

(f) How much would it take to expand the capacity of these industries to respond to substantially increased demands?

(g) What would be the inflationary impact of major expansions or reductions of the transit industry?

The answer to these questions and a discussion of the analytical approach used are contained in the body of this chapter.

The following section describes the Input/Output Analysis and the results including:

(1) Identification of the industries which supply the transit industry.

(2) Estimation of the employment generated by the transit industry and its major capital goods suppliers (bus and rail car manufacturers and subway contractors) per million dollars of production.

A complete technical description of the Input/Output Analysis and its results are included in Appendix C.

The third section of this chapter examines the capacity of the transit supplying industry groups and their ability to respond to major increases in transit operations.

The fourth section contains the results of discussions with key officials of the major suppliers of transit rolling stock (bus and rail). Among the data contained in this section are:

(1) The current condition of the transit rolling stock manufacturing portion of these firms.

(2) The ability of these firms to expand production in response to major changes in the transit capital program.

(3) The time required to significantly expand production.

The fifth section discusses the ability of the construction industry (specifically rapid rail construction) to respond to major changes in the transit program.

The sixth section explains the relationship between changes in the transit program and inflation. A summary concludes this chapter.

Results of Input/Output Analysis

Approximately every 5 years the Bureau of Economic Analysis (BEA) of the Department of Commerce, examines the interindustry relationships (i.e., sales and purchases between industries) in the United States and publishes the results in Input/Output Structure of the U.S. Economy The latest edition examined the U.S. Economy in 1967, but was not published until the latter half of 1974.

For the Input/Output Analysis the BEA broke the United States economy into 367 industries, ranging from fruits and tree nuts to safes and vaults. The Input/Output structure of the United States records all operating transactions (purchases and sales) between all of these industries, as well as capital outlays of each industry. Tables in the BEA's publications show the dollar value of the purchases (inputs) of each industry from every other industry, as well as the "value added" (employee compensation, profit, indirect business sales of each industry, etc.), These tables also show the 1967 sales (outputs) of each industry to every other industry and other consumers of their products, such as individuals and governments.

The four Input/Output industries identified below most closely represent the transit industry and its major capital goods suppliers. These are:

Local Government Passenger Transport	= Public Transit
Motor Vehicles and Parts	= Bus Manufacturing
Railroad and Street Cars	= Rapid Transit Vehicles
New Construction, Public Utilities[2]	= Subway Construction

These four industries will be the main industries investigated.

Although the industries as defined for the Input/Output Tables do not correspond exactly to the transit industry and its major capital goods suppliers, the distribution of materials purchases of these industries is approximately the same. For example, the Input/Output industries "railroad and street cars" uses approximately the same proportion of steel, iron, plastics, wages, salaries, etc. as the rapid transit car manufacturers, such as Rohr and Pullman. Thus, both industries will purchase from the same industries and generate the same amount of employment per dollar of production.

In order to use the *1967* 1/0 analysis today, it has been assumed that the technological relationships of these four industries have remained the same between 1967 and the present. In other words, the producers of rail cars, transit services, etc., are operating in approximately the same manner today as they did in 1967 and consume approximately the same amount and type of materials and labor.

The 1967 Input/Output tables contain the dollar values for:

(1) the final production in each of the four main industries,

(2) the production from direct suppliers purchased by each of the four industries, and

(3) the indirect production attributable to each main industry.

One dollar of increased production in one of the four main industries will generate additional purchases by its direct suppliers, increase production in the direct supplying industries, and indirectly impact the economy through the expenditure of additional wages and salaries. Thus, one additional dollar is spent several times, multiplying the economic impact beyond its original value.

By transforming these monetary increases into employment, an employment multiplier has been calculated. This employment multiplier is the sum of its three components: (see Table 26)

(1) Employment generated in the main industry in production;

(2) Employment generated in the direct supplier industries (including some employment in the main industry if it purchases supplies from itself) and;

(3) Indirect employment.

The employment in each main industry was determined from the total wages and salaries paid

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I u. s. Department of Commerce, Bureau of Economic Analysis input/Output Structure *of* the U.S. *Economy, 3* volumes, USPO, Washington, D.C. 1974.

[2]The "new construction, public utilities" has been used by the Bureau of Economic Analysis internally to approximate subway construction in evaluating the impact of UMTA grants.

TABLE 26

TOTAL EMPLOYMENT GENERATED BY PUBLIC TRANSIT AND SELECTED TRANSIT CAPITAL GOODS SUPPLYING INDUSTRIES INDUSTRIES
(Based on 1967 U.S. Input/Output Table)

INDUSTRY CATEGORY	EMPLOYMENT GENERATED BY PRODUCTION IN THE MAIN INDUSTRY: MAIN INDUSTRY[1]	DIRECT[2]	INDIRECT[3]	TOTAL	TOTAL OUTPUT (Millions of 1967 dollars)
Local Government, Passenger Transit	79,470 (81.6)	11,798 (12.1)	27,278 (28.0)	118,540 (121.7)	974.2
Transit Capital Goods Suppliers:					
• Motor Vehicles and Parts	802,547 (19.0)	994,116 (23.5)	3,332,051 (78.7)	6,128,714 (121.2)	42,316.5
• Railroad and Street Cars	32,634 (18.3)	41,736 (23.4)	134,435 (75.3)	208,805 (116.9)	1,786.0
• New Construction, Public Utilities	328,617 (30.1)	243,046 (22.3)	695,464 (63.7)	-1,267,127 (116.0)	10,919.0

NOTE: Numbers in parentheses are the employees per $1 million in total output in 1967. Employment per $1 million in 1974 is shown in tables 28 and 29.

[1]The Main Industry is the industry itself, i.e., public transit, bus manufacturers, rail car manufacturers, and rapid transit construction. Employment refers to the employment generated in final production.

[2]Direct refers to the employment which can be attributed to the production of goods and services directly purchased by the main industry for final production.

[3]Indirect refers to the employment which can be attributed indirectly to the main industry from such things as: the expenditure of wages and salaries, and the purchases of direct suppliers, etc.

SOURCE: System Design Concepts, Inc.

by each, and was confirmed (where possible) from other sources such as the American Public Transit Association and the Bureau of Labor Statistics.

Employment in the direct supplying industries attributable to the four main industries was assumed to equal the same proportion of the supplying industry's employment as the proportion of the main industry's purchases to total supplier production. For example, government-owned public transit purchased $6.1 million worth of commercial printing in 1967. These purchases represented 0.086 percent of total commercial printing output. Thus, 0.086 percent or 283 of the 329,055 employees in the commercial printing industry owe their jobs to the government-owned transit industry. Table 27 shows the number of employees in the industries directly supplying transit which can be attributed to the government-owned transit industry.

The indirect employment generated by the four main industries was calculated by first determining the total indirect economic impact of those four industries, determining the amount of that indirect economic impact comprised of wages and salaries, and then dividing that amount by the average national wage.

Table 26 indicates the total employment generated by each of the four Input/Output industries. In order to determine the employment attributable to each million dollars of output, the employment figures have been divided by the millions of dollars of output of each industry and shown in parenthesis in Table 26 and in Tables 28 and 29. A second column in Table 28 indicates the number of employees which could be attributed to $1 million of production in 1974. The decline in the number of jobs created by $1 million between 1967 and 1974 is due solely to the decline in the value of the dollar between those years. The number of employees generated per million dollars of production in each of these industries is very similar, ranging from 79 to 83 in 1974.

While total employment (direct plus indirect) generated per million dollars in each of these main industries is nearly the same, the distribution of these jobs among the main industry itself, the direct suppliers and the indirect suppliers varies considerably among the industries as shown in Table

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TABLE 27

TOTAL U.S. EMPLOYMENT DIRECTLY ATTRIBUTABLE TO THE GOVERNMENT-OWNED PUBLIC TRANSIT INDUSTRY BY SELECTED INDUSTRY GROUP, 1967

Industry	Total Employment[1] Attributable to Government-Owned Transit Industry
NON-DURABLE GOODS:	
Commercial Printing	283
Miscellaneous Chemical Production	92
Petroleum Refining	148
Tires and Tubes	319
Miscellaneous Plastics	256
DURABLE GOODS:	
Iron and Steel Foundries	347
Metal Stampings	103
Internal Combustion Engines	342
Electric Lamps	133
NONMANUFACTURING:	
Railroads and Related Services	125
Motor Freight Transportation	418
Wholesale Trade	1,390
Insurance Carriers	1,280
Miscellaneous Business Services	2,139

[1] This does not include employment by private transit industry which uses about 35% of the total transit industry.

SOURCE System Design Concepts, Inc. based upon 1967 Input/Output data, 1967 National Income Account, and 1967 Census of Manufacturers figures.

TABLE 28

TOTAL EMPLOYMENT MULTIPLIER OF PUBLIC TRANSIT AND TRANSIT CAPITAL GOODS SUPPLYING INDUSTRIES (Based on 1967 U.S. Input/Output Table)

Industry	Estimated Employment Generated Per $1 Million of Total Production	
	(1967)[5]	(1974)[5]
Public Transit[1]	121.7	83.2
Transit Capital Goods Suppliers:		
• Bus Manufacturers[2]	121.2	82.9
• Rail Car Manufacturers[3]	116.9	79.9
• Rapid Transit Construction[4]	116.0	79.4

[1] Calculated from I/0 Industry 79.01 "Local Government Passenger Transit."

2 Calculated from I/0 Industry 59.03 "Motor Vehicles and Parts."

3 Calculated from I/O Industry 61.04 "Railroad and Street Cars."

[4] Calculated from I/0 Industry 11.03 "New Construction, Public Utilities."

5 The decrease in jobs per million dollars between 1967 and 1974 is due to the decrease in value of the dollar over that period.

SOURCE: System Design Concepts, Inc.

29, The public transit industry, which is the most labor-intensive (i.e., requires the highest proportion of labor per dollar of production) of the four industries, generates the greatest number of employees (56) in the main industry itself. Subway construction, which is also labor intensive (but less so than the transit industry), generates a large number of employees in the main industry itself (21) compared with the bus and rail car manufacturers (I3 and 12.5 respectively),

On the other hand, the bus and rail car manufacturers produced the greatest number of indirect employees (54 and 51), Subway construction also produces a respectable number of indirect employees (44), while the transit industry itself produces only 19. These differences are due primarily to the degree of labor intensiveness of each of the industries.

Labor intensive industries such as construction and public transit are likely to create employment opportunities in the localities where the money is spent, while the capital intensive industry, such as bus and rail vehicle manufacturing, is likely to distribute the employment generated throughout the country. Thus, the expansion of transit operations or subway construction in Baltimore is likely to have significant employment effects in that city and little effect elsewhere. However, the purchase of replacement buses by that same city will have little employment impact in the local area (unless the area is oriented toward the bus manufacturing industry), but will distribute its employment effect across the country as a whole.

The Capacity of Transit Related Industries at the Macro Level

This section briefly examines the ability of the industries which supply goods and services for transit operations to respond to major changes in transit service levels. The section does not examine the capital goods suppliers such as bus and rail car manufacturers and subway contractors, which are discussed in the next two sections.

TABLE 29

MAIN INDUSTRY, DIRECT, INDIRECT, AND EMPLOYMENT GENERATED BY TRANSIT AND RELATED INDUSTRIES

(Based on 1967 U.S. Input/Output Table)

INDUSTRY	EMPLOYMENT GENERATED		
	MAIN INDUSTRY[1]	DIRECT[2]	INDIRECT[3]
	(Estimated employment per $1 million of output in main industry in 1974)		
• Public Transit	55.8	8.3	19.1
• Bus Manufacturers	13.0	16.1	53.8
• Rail Car Manufacturers	12.5	16.0	51.4
• Rapid Transit Construction	20.6	15.2	43.5

[1] The Main Industry is the industry itself, i.e., public transit, bus manufacturers, rail car manufacturers, and rapid transit construction. Employment refers to the employment generated in final production.

[2] Direct refers to the employment which can be attributed to the production of goods and services directly purchased by the main industry for final production.

[3] Indirect refers to the employment which can be attributed indirectly to the main industry from such things as: the expenditure of wages and salaries, and the purchases of direct suppliers, etc.

SOURCE: System Design Concepts, Inc.

TABLE 30

MANUFACTURERS' CAPACITY UTILIZATION RATES: RATIOS OF OPERATING TO PREFERRED RATES MARCH, JUNE, SEPTEMBER, AND DECEMBER 1974

(Seasonally adjusted)

	Ratio of Operating Rate to Preferred Rates			
	March	June	September	December
ALL MANUFACTURERS	.88	.88	.88	.83
NONDURABLE GOODS:	.90	.90	.89	.86
Chemical	.92	.93	.93	.88
Petroleum	.89	.96	.93	.94
Rubber and Miscellaneous Plastics	.93	.92	.90	.82
DURABLE GOODS:	.86	.88	.88	.79
Primary Metals	.93	.94	.94	.85
Machinery, except Electrical	.94	.93	.94	.92
Transportation Equipment	.78	.78	.82	.70
Motor Vehicles and Parts	.78	.81	.87	.66

SOURCE: *Survey of* Current *Business,* Volume 55, No. 3 (March 1975), table 7, page 18.

None of the industries which supply transit operations (excluding capital goods such as buses) sell more than one percent of their production to transit according to an analysis of the **1967** Input/Output tables. Since transit consumes such a minor portion of the production of its supplier industries, even a many-fold increase or decrease in transit operations is not likely to strain the supplier's capacity,

This is confirmed by Table 30 which shows that there is excess capacity in all of the major industry groups which contain industries that supply transit. The table shows the ratio of existing production to the production level preferred by industry officials. In these industries which supply transit there is between 6 and 34 percent in unused capacity, which is more than adequate to serve even a greatly expanded transit industry.

Microanalysis of Key Suppliers of Rolling Stock

The manufacturers of transit rolling stock have the basic manufacturing capacity to significantly increase production above the presently predicted 1975-76 market demand.

The two factors most frequently cited by manufacturers which would influence how rapidly they could gear up and sustain increased production are:

(1) The lack of a foreseeable long term market for rail transit equipment, other than the replacement market and a few new or expanded rail transit systems.

(2) The lack of availability of certain component parts which presently, and in the short term, handicap bus transit manufacturers in expanding production.

Transit bus manufacturers more than tripled production during 1974 with deliveries of more than **4,800** units from a low point of less than 1,450 units in 1970.[3] These new transit buses delivered represented either the replacement or net addition to the national transit bus fleet of about 10 percent during the year. The estimated total number of transit buses operated nationally is **48,700.**[4]

Basic capacity as reported in detail by the primary transit bus manufacturers would permit a production rate of **7,500** units per year during **1975-76** and a rate of 10,000 units per year by 1976-77—assuming the availability of certain component parts. The estimated market for 1975-76, assuming no major changes in public transit policy including funding, is about 5,500 units of which about 4,250 are expected to be buses with 40 or more seats and the remainder is various smaller sizes.

Rail transit vehicle manufacturers are expected to have a banner year during **1975-76** after hitting a low point in deliveries of less than 100 rail transit car deliveries during 1974.[4] It should be noted, however, that 1974 was an unusually low year in comparison with the previous 5-year average of more than 35o rail transit car deliveries per year. The reason for high deliveries expected in 1975-76 and somewhat beyond is a backlog of orders including 745 R-46 cars for the New York City subway system, 300 new cars for Washington's METRO, 2oo cars for the Chicago Transit Authority, 175 light rail cars for Boston's MBTA, and 100 cars for the San Francisco Muni System. This does not include outstanding orders for both commuter and intercity rail passenger cars.

A clearly defined capacity for rail transit equipment is difficult to estimate because all manufacturers also are suppliers or potential suppliers of both commuter and intercity rail equipment, and some also manufacture rail freight equipment. An indication of the spare capacity for greater production, however, is the plan of Rohr Industries to close down its Chula Vista, Calif. transit car line in June or July 1975, with the completion of production for the San Francisco area's BART system.

Thus, transit rolling stock manufacturers, both bus and rail, could significantly increase production over a relatively short period of time if they could realistically predict sharp rises in market demand which would allow them to make the business decision to utilize capacity that is readily available,

The most immediate threat to increased or even level production is the rapid escalation in transit rolling stock costs without a commensurate increase in Federal capital grant funds. Bid prices on transit buses have increased from approximately $45,000 per unit to about $65,000 per unit over the last year to 18 months. A similar escalation has occurred in rail transit cars with present prices estimated at about $500,000 per car as compared with about $300,000 per car in the recent past. Meanwhile, UMTA is projecting a capital grant total of

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[3] 1974-75 *Transit Fact Book*, American Public Transit Association.

[4] Ibid.

about $1.1 billion for the 1976 Fiscal Year as compared with $1.05 billion for the 1975 Fiscal Year.

Factors Influencing Bus Manufacturing Capacity

The three major manufacturers of transit buses were interviewed at length in order to obtain data on manufacturing capability and primary constraints on increased production. The three are General Motors' Truck and Coach Division, AM General, and Rohr Industries' Flexible Coach Division.

All three manufacturers, in varying degrees, cited four primary factors which heavily influence their projections of market demand and production scheduling. They are:

- Availability of critical component parts.
- Proliferation of specification options.
- The uneven flow of capital grant funds from the Urban Mass Transportation Administration to transit operators and local governments.
- The decision by transit operators and local governments to use funds made available by section 5 of the National Mass Transportation Assistance Act of 1974 for operating expenses instead of capital equipment investment.

Component Parts

Total production capacity for transit buses and the time necessary to achieve capacity production are, in part, controlled by the capability of suppliers of critical components.

The ten most critical components, in no specific order, are: lighting equipment, seats, fan-drive gears, steering shafts, brake fittings, brake air compressors, slack adjusters, transmissions, axles, and engines. Each of the ten components is manufactured by single-source suppliers or suppliers who dominate the particular component field in which they specialize.

Increasing capacity for critical components is determined by the time it would take to obtain tools and fixtures for higher production. Some component manufacturers already have made that investment or are in the process of making the investment, and increased production is showing up in deliveries for final assembly. In addition, some expansion of capacity is possible with present plant and tools through the training of additional work force and expansion to two *or* three work shifts.

All manufacturers agree that alternate suppliers for at least some components could be secured if there were sufficient flexibility in the specifications deveIoped by the buying transit operators, In addition, the prime bus manufacturers can develop the capability and capacity to manufacture certain components themselves. One manufacturer has made this decision for certain parts,

Effects of Bus Specifications

All three principal transit bus manufacturers have expressed strong concerns that transit bus operators are moving farther and farther away from standardized specifications. This has resulted in longer lead times to produce orders and higher unit costs. Manufacturers cited numerous examples of modifications or options written into specifications which resulted in custom building each order,

There are approximately 20,000 parts in a bus supplied by about 1,200 potential manufacturers, There are nearly **1,600** options that can be exercised on regular production and special equipment parts and configurations. There is an almost unlimited number of options when interior configuration and finishes are added.

The significance of the proliferation of options is that no manufacturer can build buses on speculation and no production runs can be planned and material ordered until after bids are awarded. Planning a production run and obtaining all the materials, including special option parts, takes approximately **6** months, with an additional 3 months to fit medium to large orders into the production schedule and complete an order.

The manufacturers have in some instances declined a bid on transit buses because the delivery time set as a part of the specifications was too short for them to meet. Manufacturers stated that the proliferation of options in bus specifications has resulted in significant increases in price. AM General estimated the cost increase to be at least 15 to 20 percent. General Motors generally concurred in this estimate and stated that there were a few instances in which the cost increase was as much as 30 percent. GM stated added options or variances from specifications in prior years had added about 5 to 10 percent to prices.

The additional costs of option proliferation, not considering the longer lead times, must be considered in light of the dramatic increases in the costs

of transit buses. As recently as 1971 and 1972, low bids on significant orders of buses were between $40,000 and $45,000. Recent low bids were for $64,000 and $67,000 respectively. The dramatic increase in cost, of course, is not attributable solely to option proliferation, but is part of the overall inflation problem of higher labor and material costs. It is significant, however, that the manufacturers estimated that a bus of standardized specifications could reduce unit prices by as much as $10,000 to $15,000.

Even Flow of Capital Grant Funds

With few exceptions, bus transit operators are buying new equipment with capital grant funds made available from the Urban Mass Transportation Administration. In the last 4 years, and continuing into Fiscal Year 1975, UMTA has not approved the majority of capital grant applications before it until the second half of the fiscal year, with a large concentration of approvals in the last 3 months of the fiscal year.

The experience during Fiscal Year 1974 was that few and small capital grants were made during the first 6 months of the fiscal year, with a gradually increasing rate until capital grants hit a peak during the last month of the year. This, in turn, affected the time in which transit operators could advertise for bids, and subsequently resulted in further stretchouts of actual deliveries. A relatively even flow of capital grant funds throughout the fiscal year would be of substantial assistance, since manufacturers cannot plan production and order materials until after bids are awarded.

Effects of Capital Versus Operating Funds

All manufacturers expressed the opinion that there would be a gradual and relatively slow increase in the transit bus market unless transit operators chose to utilize all available Federal funds for capital equipment purposes instead of operating expenses.

A survey of the major transit operators in the Nation reveals that most of them have already made the decision to utilize funds made available by section 5 of the National Mass Transportation Assistance Act of 1974 for operating expense purposes.

Thus, the amount of Federal funds for capital equipment use will be approximately the same in the 1976 Fiscal Year as during 1975.

UMTA officials have expressed the hope that transit operators would use significant amounts of the new section 5 money for capital purposes, but this decision is not likely based upon a survey of the operators.

The combination of a relatively stable amount of available capital funds and the substantial increase in unit prices for transit buses may, in fact, reduce the number of new buses purchased.

The Capacity of The Rapid Transit Construction Industry

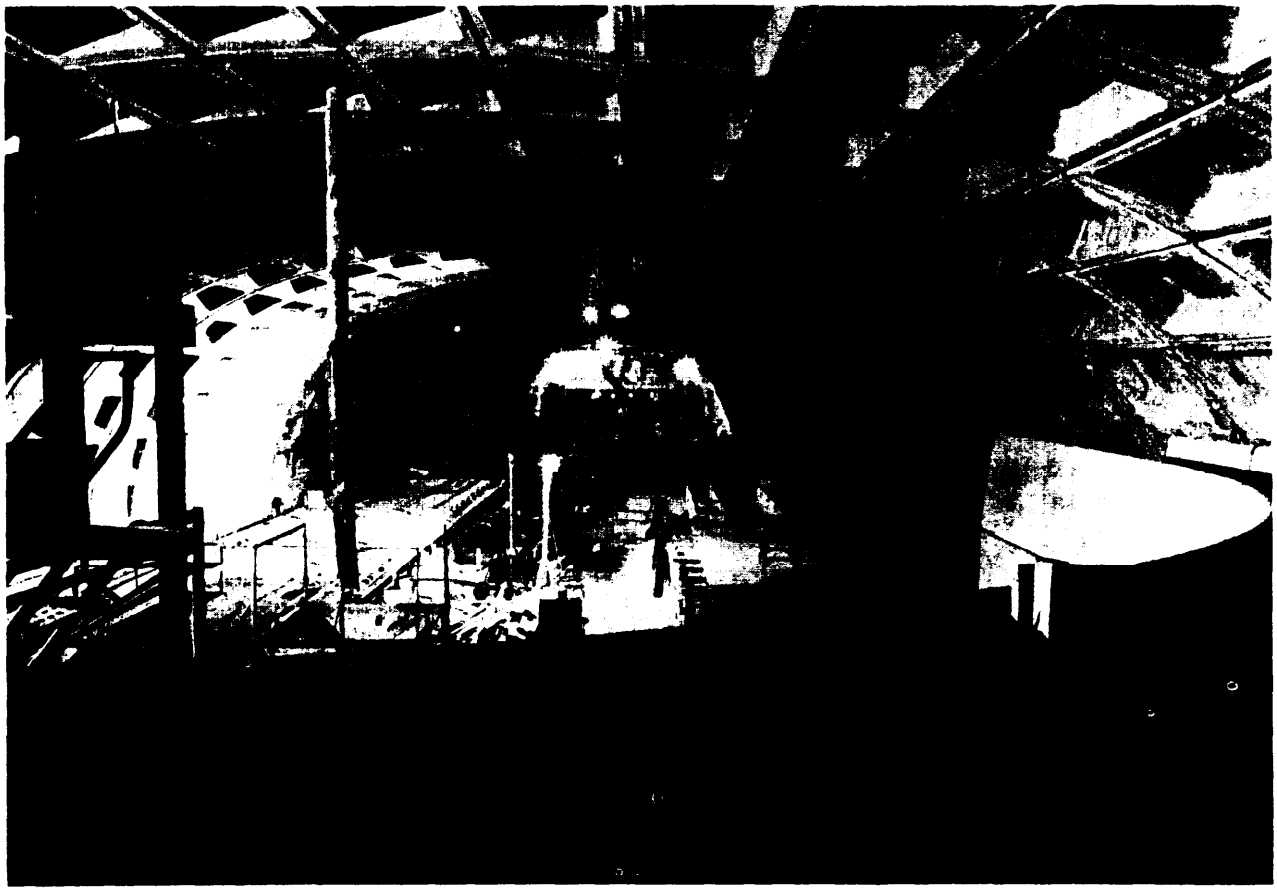
The rapid transit construction industry could easily double its current level of activity and probably achieve even higher levels of activity. This great ability to expand rapid transit construction is due largely to the substitutability of most aspects of rapid transit construction with other activities such as highway and major building construction, and to the current high levels of unemployment in the whole construction industry,

The current unemployment in the contract construction industry is 19.9 percent nationwide.[5] With such a large amount of excess capacity in the construction industry as a whole there would be no difficulty finding the labor and contractors necessary to drastically expand rapid transit construction,

Most of the components of rapid transit construction are easily compatible with other construction activities. For example, the construction of elevated and at-grade rapid rail transit lines is easily compatible with the construction techniques used on highways, Cut-and-cover construction is quite similar to and uses the same equipment and manpower as the excavation work performed for large buildings,

Of all the major aspects of rapid transit construction only tunneling does not have a large counterpart construction activity from which to draw machinery and manpower, Tunneling requires special job skills and equipment and is carried out in a difficult environment requiring higher levels of safety consciousness. It is possible that if the subway construction activity in the United States were significantly expanded to include large amounts of tunneling work that the capacity of the firms performing this type of work would be strained in the short run. This would probably result in higher

[5] *Engineering News* Record, October 2, 1975. p. 55.



Metro Tunnel Construction, Washington, D.C.

costs of construction, due to the limited supply of this service. However, only a small proportion of the mileage of new and proposed rapid transit systems is to be constructed in tunnels. Most of the mileage is either at-grade or in cut-and-cover trenches. With careful planning and coordination at the national level the timing of tunneling activities could be so arranged that the resources could be shifted from one city to another without significantly straining the capacity of this industry.

In conclusion, with proper coordination and direction at a national level to ensure that tunneling activity is staggered, there is no reason why the construction of rapid transit systems could not be drastically increased.

Inflationary Impact of Major Changes in the Transit Program

At the present time all of the major industries supplying transit with capital equipment (buses, rail cars, rapid transit facilities) are operating well below capacity. This indicates that major increases in transit purchases could be easily accommodated within existing capacities. Thus excess demand for scarce resources would not be generated and the pressures on the economy which have traditionally caused inflation would not be experienced,

A similar situation exists in the transit industry itself. An increase in the demand for bus drivers (which makes up the largest portion of expenses of transit operators) is not likely to result in significant pressure for higher wages. This is because the skills required by drivers are easily mastered by a large number of potential employees, Thus transit can draw new drivers from a large labor pool, decreasing the likelihood of anything but a temporary shortage of skilled drivers which would lead to large wage increases accompanying this expansion of the industry. Thus, expansion of the transit industry can be made without inflationary ***pressures*** on the economy,

While it is therefore unlikely that major increases in transit operations would contribute to in-

flation, it is equally unlikely that a major reduction in the transit program would have a significant impact on the rate of inflation. This is due to two factors. First, transit is very small size when compared to the economy as a whole. The transit industry accounted for only $3 billion out of a total GNP of $1.4 trillion in 1974. The second factor which would make it unlikely that a cut back in transit expenditures would reduce inflation, is the current operating capacity of the industry and its major capital equipment suppliers. All are operating at well below capacity (especially the bus and auto industry, and the rapid transit construction industry) and thus not contributing significantly to the traditional strains on the economy associated with inflationary pressures,

SUMMARY

This analysis indicates that the transit industry could easily increase its level of activity in response to major increases in funding of the transit program.

. Bus production could be doubled to a production level which would equal 20 percent of the existing transit bus fleet within 2 years,

. The rail car industry could meet or exceed this year's exceptionally high production of light and heavy rail cars in the future.

- The rapid transit system construction industry could easily draw upon related construction industries to drastically increase its level of activity if the tunneling (as opposed to cut-and-cover, at-grade, and elevated) work was a small portion of the total or was staggered over time.
- Initial responses from major metropolitan areas (see Chapter X) indicate that the manpower and supplies could easily be obtained to increase transit service as quickly as additional rolling stock could be obtained.

The analysis also shows that the employment generated per dollar of production of buses, rail cars, subways, or increased transit service is about the same. Approximately 80 individuals would be employed or unemployed if production in any of these industries is increased or decreased by $1 million.

Since the transit industry and its capital equipment suppliers are operating at well below capacity, they are not likely to be contributing to traditional inflationary pressures. Even if a major expansion of the transit industry were to take place in the near future the industry and its suppliers are likely to expand production without straining existing resources, thus not contributing to inflationary pressures even under these circumstances.