



CHICAGO SUBURBAN RAIL SUMMARY (COMMUTER RAIL, REGIONAL RAIL)

October 2003

The Chicago commuter rail service area consists of 8.3 million people, spread over 2,100 square miles at an average population density of 3,900 per square mile. Public transport's share of travel is below four percent. Public transport operates at 22.9 miles per hour, below the 27.9 mile per hour automobile speed.

Approximately four percent of the urban land area is at pre-automobile population densities (above 15,000 per square mile), while 24 percent (2.0 million) of the population lives in this area. The Chicago central business district is the nation's second largest, with nearly 500,000 jobs.¹ This represents 13 percent of the metropolitan area's employment. Further, few new jobs have been created downtown. From 1960 to 1990, more than 96 percent of the new jobs in the metropolitan area were created outside downtown.²

Chicago has the nation's second largest commuter rail system, with approximately 75 million boardings annually (300,000 daily), which is approximately 0.5 percent of travel in the area (Figure 12). There are more than 300 miles of route and 250 stations on 11 routes. There are 0.12 stations per square mile of urban land (one station for each 8.5 square miles). Most service terminates at stations on the periphery of downtown. Transfers can be made at these stations to elevated rail services or buses. There is, however, no through running of commuter rail trains on elevated or subway routes, and no commuter rail trains run through the central business district. The commuter rail system is operated by government agencies, and receives operating subsidies. All capital costs are subsidized.

¹ US Census Bureau, 1990.

² Calculated from Kenworthy & Laube.



Figure 1

Like New York, commuter rail in Chicago is principally a downtown oriented system. Auto-competitive service is provided to the central business district from throughout the urban area. In the downtown area, commuter rail carries 23 percent of commuters (Figure 13), the highest downtown commuter rail share in the nation. More than 120,000 commuter rail riders converge on the three square mile central business district, without which it is likely that traffic would be much worse (36,000 per square mile). However, little auto-competitive service is available in the rest of the area, which is reflected by commuter rail's much smaller share at 0.3 percent outside downtown. Outside downtown only 11,000 commuters are spread among destinations throughout more than 1,500 square miles.³ It is estimated that there are approximately 250 daily passenger miles of commuter rail ridership not oriented to downtown.⁴ This compares to 58,000 daily vehicle miles per square mile (93,000 person miles) of road travel in the Chicago area.

The scant level of suburban to suburban automobile competitive public transport services is illustrated by a review of suburban to suburban commuting in the Chicago area. The average trip time, not including walking to and from the public transport stops was 2:39. This is more than three times the average public transport work trip (most of which are either to downtown or within the city of Chicago) of 49.7 minutes. It is also more than 5.5 times the average work trip length for non-public transport trips (mostly automobile) in the Chicago area.⁵ The shortest work trip was 43 minutes, while the longest was 3:56.⁶

³ 1990 data.

⁴ 1990 data.

⁵ 2000 Census data.

⁶This analysis used the Regional Transportation Authority (<http://tripsweb.rtachicago.com/>) trip planner for work trips from the suburban Orland Mall area to approximately 60 suburban locations built into the trip planner.

Chicago's commuter rail system provides a automobile competitive service to the downtown area. But, as the analysis above indicates, there is little automobile competitive service within the suburban areas, which account for approximately 65 percent of both residences and jobs.



Figure 2

APPENDIX TABLES

Appendix Table A
International Pre-Automobile Commuter Rail Systems

	Tokyo	Osaka	Nagoya	Paris	London	Sydney
DEMOGRAPHICS						
Population (000)	31,200	15,250	8,050	9,650	12,230	3,539
Urban Area (Square Miles)	2,030	1,050	1,090	1,060	1,600	811
Population Density	15,369	14,524	7,385	9,104	7,644	4,365
Gross Product/Capita 1999	\$28,327	\$25,376	\$28,535	\$32,343	\$27,365	\$25,643

Compared to Tokyo	0.0%	-10.4%	0.7%	14.2%	-3.4%	-9.5%
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CENTRALIZATION

% Population>15,000 Density	71%	70%	24%	56%	23%	1%
% Land>15,000 Density	46%	43%	9%	18%	8%	0%
Core Population Share	26%	17%	27%	22%	59%	15%
Suburban Population Share	74%	83%	73%	78%	41%	85%
CBD (Downtown) Employment Share	16%	18%	13%	17%	16%	11%
Outside CBD Employment Share	84%	82%	88%	83%	84%	89%
Employment in CBD (000)	2,434	1,380	500	891	1,099	175

PUBLIC TRANSPORT SYSTEM

Public transport Market Share	56.7%	59.5%	24.6%	24.1%	17.1%	13.6%
Public transport/Auto Speed	1.6			1.5		

COMMUTER RAIL

Commuter Rail Market Share	39.5%	36.4%	12.0%	7.2%	3.7%	5.6%
Compared to New York	59.9	53.3	18.2	11.0	5.6	8.5
Miles of Route	1,779	1,095	528	1,012	2,260	1,273
Stations	1,243	1,065	843	540	940	306
Station Density	0.61	1.01	0.77	0.51	0.59	0.38
Operating Subsidy?	No	No	No	Yes	Yes	Yes
Capital Subsidy	No	No	No	100%	100%	100%
Share with Freight?	No	No	No	Little	Little	Little

HIGHWAYS

Traffic Density (Vehicle Miles/Sq.Mi.)	118,854			83,462		
Compared to Tokyo	0.0%			-29.8%		

EXTENT OF AUTO COMPETITIVE PUBLIC TRANSPORT SERVICE

Within Core	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
Suburbs to Core	HIGH	HIGH	HIGH	MIDDLE	MIDDLE	MIDDLE
Within Suburbs	HIGH	HIGH	HIGH	LOW	NIL	NIL

Appendix Table B
United States Pre-Automobile Commuter Rail Systems

New York Chicago Boston Philadelphia

DEMOGRAPHICS

Population (000)	20,253	8,307	4,032	5,149
Urban Area (Square Miles)	4,711	2,123	1,736	1,799
Population Density	4,299	3,913	2,323	2,862
Gross Product/Capita 1999	\$43,805	\$39,384	\$40,301	\$36,025
Compared to Tokyo	54.6%	39.0%	42.3%	27.2%

CENTRALIZATION

% Population>15,000 Density	44%	24%	20%	22%
% Land>15,000 Density	5%	4%	2%	3%
Core Population Share	40%	35%	15%	29%
Suburban Population Share	60%	65%	85%	71%
CBD (Downtown) Employment Share	19%	13%	13%	14%
Outside CBD Employment Share	81%	87%	87%	86%
Employment in CBD (000)	1,733	485	280	351

PUBLIC TRANSPORT SYSTEM

Public transport Market Share	9.0%	3.6%	3.8%	2.9%
Public transport/Auto Speed	0.9	0.8	0.6	

COMMUTER RAIL

Commuter Rail Market Share	0.7%	0.5%	0.4%	0.3%
Compared to New York	1.0	0.7	0.6	0.4
Miles of Route	979	333	328	304
Stations	404	250	116	176
Station Density	0.09	0.12	0.07	0.10
Operating Subsidy?	Yes	Yes	Yes	Yes
Capital Subsidy	100%	100%	100%	100%
Share with Freight?	Little	Little	Little	Little

HIGHWAYS

Traffic Density (Vehicle Miles/Sq.Mi.)	63,312	57,968	43,350	57,168
Compared to Tokyo	-46.7%	-51.2%	-63.5%	-51.9%

EXTENT OF AUTO COMPETITIVE PUBLIC TRANSPORT SERVICE

Within Core	HIGH	HIGH	HIGH	HIGH
Suburbs to Core	MIDDLE	MIDDLE	MIDDLE	MIDDLE
Within Suburbs	NIL	NIL	NIL	NIL

Appendix Table C
United States Automobile Era Commuter Rail Systems and Lines

	Washington- Baltimore	Los Angeles	San Diego	Miami	Dallas-Fort Worth	Seattle
DEMOGRAPHICS						
Population (000)	6,010	14,000	2,674	4,919	4,146	2,712
Urban Area (Square Miles)	1,840	2,299	782	1,116	1,407	954
Population Density	3,266	6,090	3,419	4,408	2,947	2,843
Gross Product/Capita 1999	\$41,316	\$33,486	\$34,495	\$31,261	\$40,306	\$38,928
Compared to Tokyo	45.9%	18.2%	21.8%	10.4%	42.3%	37.4%
CENTRALIZATION						
% Population>15,000 Density	10%	23%	3%	7%	2%	2%
% Land>15,000 Density	1%	6%	2%	2%	0%	0%
Core Population Share	20%	26%	46%	7%	29%	21%
Suburban Population Share	80%	74%	54%	93%	71%	79%
CBD (Downtown) Employment Share	19%	2%	6%	2%	6%	12%
Outside CBD Employment Share	81%	98%	94%	98%	94%	88%
Employment in CBD (000)	444	167	73	41	112	171
PUBLIC TRANSPORT SYSTEM						
Public transport Market Share	3.3%	1.4%	1.5%	1.3%	0.5%	1.8%
Public transport/Auto Speed	0.8	0.4	0.5			
COMMUTER RAIL						
Commuter Rail Market Share	0.05%	0.02%	0.02%	0.03%	0.01%	0.01%
Compared to New York	0.08	0.03	0.03	0.04	0.02	0.01
Miles of Route	191	415	43	71	35	34
Stations	56	48	9	19	9	7
Station Density	0.03	0.02	0.01	0.02	0.01	0.01
Operating Subsidy?	Yes	Yes	Yes	Yes	Yes	Yes
Capital Subsidy	100%	100%	100%	100%	100%	0%
Share with Freight?	Yes	Yes	Yes	Yes	Yes	Yes
HIGHWAYS						
Traffic Density (Vehicle Miles/Sq.Mi.)	74,798	104,970	85,687	109,613	68,077	60,936
Compared to Tokyo	-37.1%	-11.7%	-27.9%	-7.8%	-42.7%	-48.7%

EXTENT OF AUTO COMPETITIVE PUBLIC TRANSPORT SERVICE

Within Core	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
Suburbs to Core	MIDDLE	MIDDLE	MIDDLE	MIDDLE	MIDDLE	MIDDLE
Within Suburbs	NIL	NIL	NIL	NIL	NIL	NIL

Note: Washington-Baltimore CBD data is for Washington and Baltimore.

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