LRT

Metropolitan Council of the Twin Cities Area

Technical Supplement

Consultant Report

Light Rail Transit Feasibility Study

April 1981

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TECHNICAL SUPPLEMENT
LIGHT RAIL TRANSIT FEASIBILITY STUDY

I

INTRODUCTION

The Technical Supplement to the Light Rail Transit Feasibility Study contains much of the data, calculations, and methodologies used in preparing the final report.

Patronage forecasting methodology is outlined and LRT patronage levels shown for each corridor. Descriptions are provided as to how vehicle requirements, vehicle miles, annual passengers, and annualized capital costs were calculated. Finally, detailed land use data is presented on each corridor and, in particular, around LRT stops.

II

PATRONAGE FORECASTS

A

LRT PATRONAGE FORECASTING METHODOLOGY

Ridership assignments to the LRT alignments were done by using the output of the sketch planning model and available data from the regional model runs as a basis for developing 24-hour total and peak period (2-hour) assignments. The Twin Cities Sketch Planning Model generates an express (LRT) line as a straight line extending from a selected zone at a specified angle. It then connects that line to all specified corridor zones with centroid connectors to the closest point on the line. The output includes summaries of ridership and productions and attractions for each zone, split by auto, carpool, express transit and local transit. The model operates only on Home Based Work trips.

As the alignments selected were not straight lines, the sketch planning model had to be used in segments, with the data from appropriate zones obtained from each segment run. This precluded use of the summary output and required zone by zone analysis. This permitted zone by zone expansion from Home Based Work to total trips and assignment of each zone's productions and attractions to the most appropriate LRT stop(s) based on the actual access network.

Regional model output was obtained for total transit trips and Home Based Work transit trips produced and attracted by zone. This output was used to develop percentages (Home Based Work/Total) to apply to the LRT zonal sketch planning output to convert Home Based Work trips to total LRT trips. For the University Corridor, these data were augmented by zone-zone movement data for Home Based Other trips to the University zones, to assure adequate consideration of student ridership. The resulting zonal LRT total productions and attractions were plotted on a map. Outside the corridor, zones were grouped into logical groupings for plotting.

The LRT alignment was drawn on the same map, with stops marked. These maps (one per corridor) were then placed alongside regional highway and transit maps, and each zone's productions and attractions were assigned, manually, to the appropriate stop(s), and split by mode. Those zones adjacent to, or within a half-mile of the alignment had some portion of their ridership assumed as walk, depending on zone size and relationship to the station. Those within the defined bus access had some portion assumed as bus. Those very distant from the corridor, usually assumed to access the system at major nodes (Downtown, I694, I494, TH100, etc.) were split between to those major nodes. All of the access mode split was performed manually, but it was based on logical assumptions, and knowledge of the highway transit and pedestrian systems.

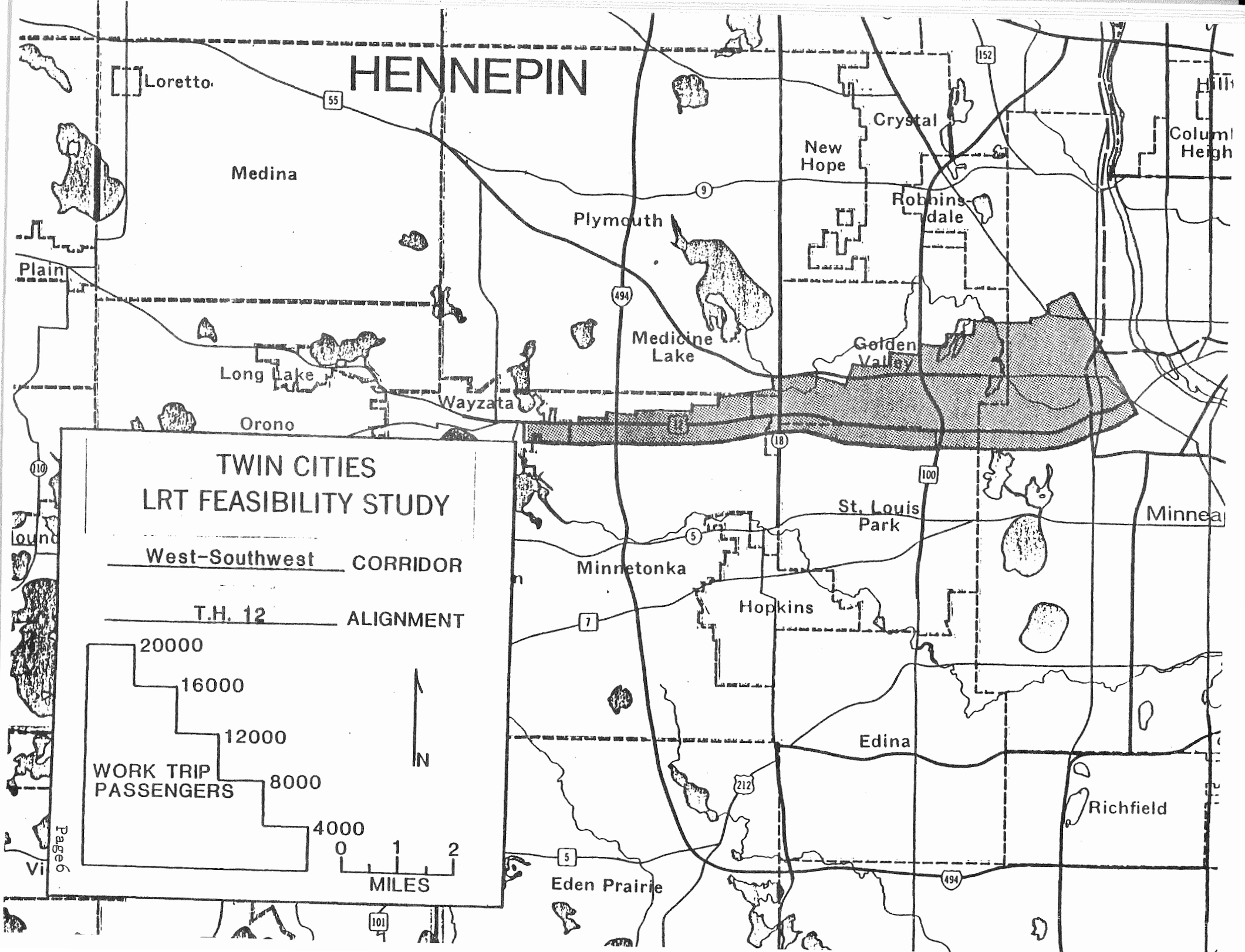
Once productions and attractions were assigned, they were summed, balanced, and split, manually, between inbound and outbound, based on knowledge of land uses at each stop and the magnitude of attractions at the outer stations. The split was adjusted to achieve a balance in productions and attractions in each direction. The resulting assignment was then split, using a programmable calculator, into peak period (as an assumed 25 percent of total trips, based on 1970 Home Interview Survey Data) total one-way trips, and access trips by mode, using the percentages calculated in the assignment process. On-board trips and passenger miles traveled were calculated (on-board passengers times the distance between stops).

The resulting assignments are based extensively on model output, with judgment playing a major role only in access mode split. They appear reasonable in magnitude, distribution and comparative analysis. It was possible to hand adjust for anticipated new development and redevelopment, where the magnitude warranted it. Documentation is on file on the assignment of trips, by zone, to stop and the mathematical analysis of the productions and attractions.

Patronage forecasts are presented, by corridor, on the following pages. The corridor maps show the patronage forecasts for the preliminary alignment tested. These forecasts were used as one criterion in selecting a preferred alignment in each corridor. Following the maps are a series of sheets showing 1) Daily Assignments, including total one-way trips and ons and offs by stop; 2) Peak Hour Assignment, isolating the peak hour segment of the daily assignment by stop; and 3) Access Modal Split by station, showing the anticipated mode of travel to each stop on a daily basis as well as in the morning peak.

B

PATRONAGE FORECASTS BY CORRIDOR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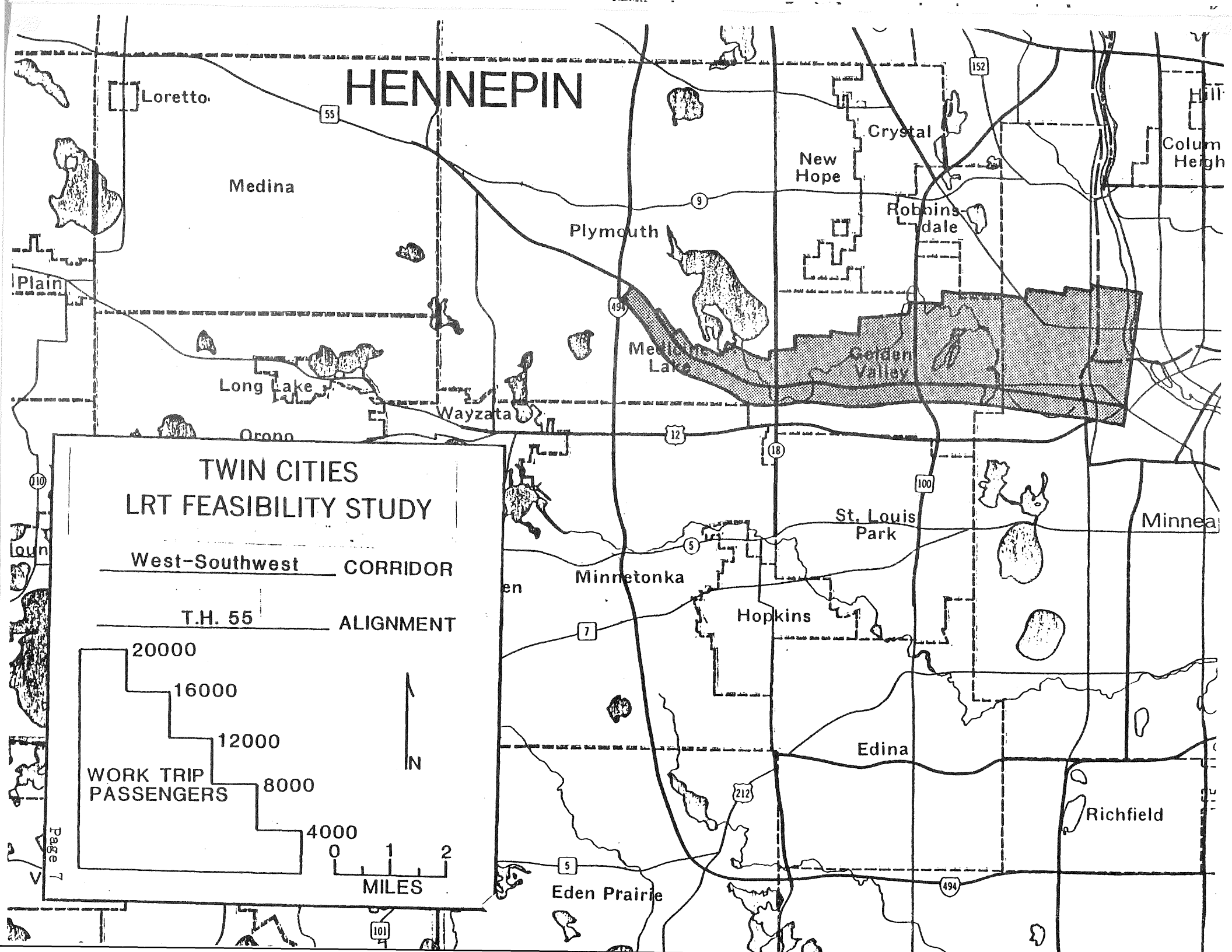
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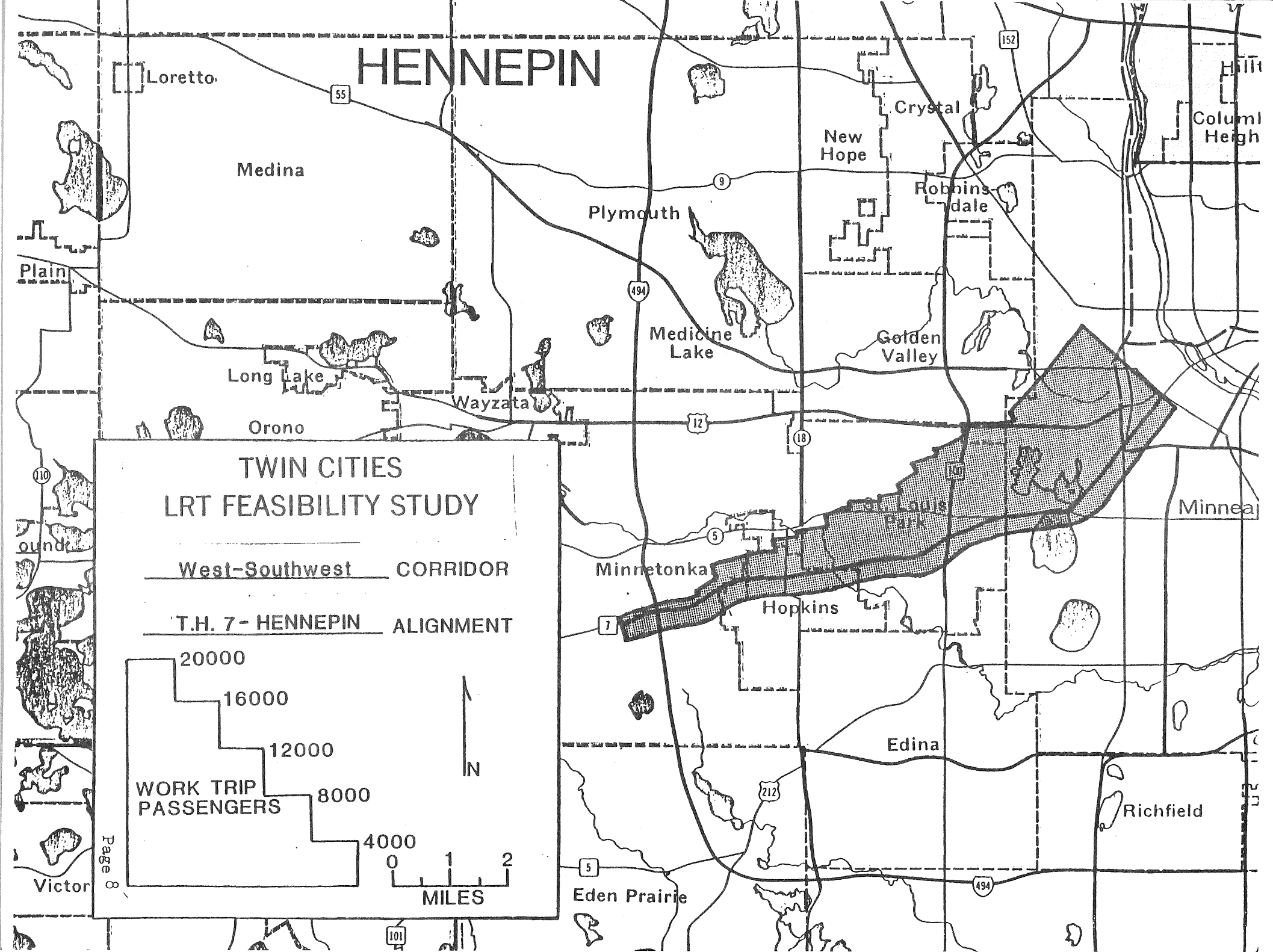
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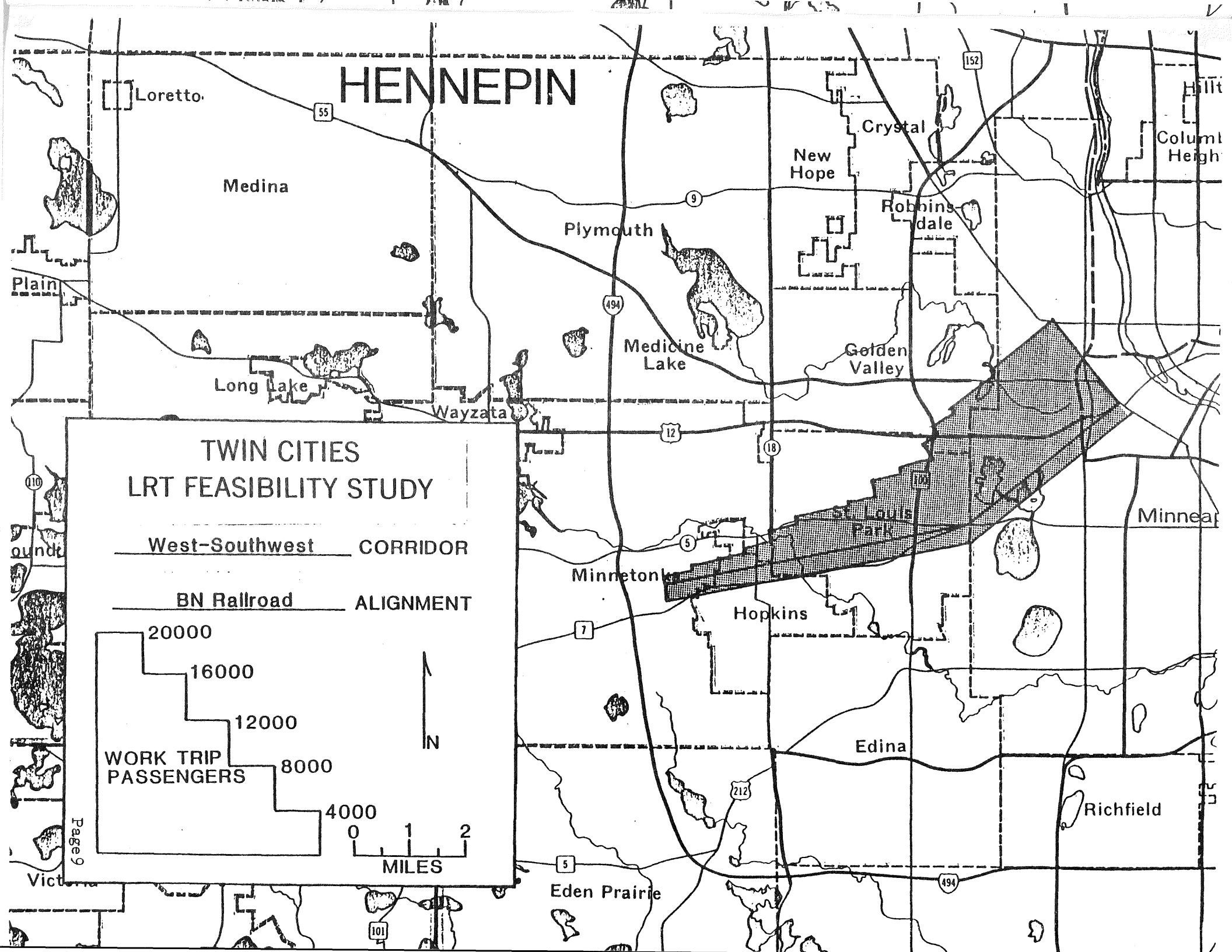
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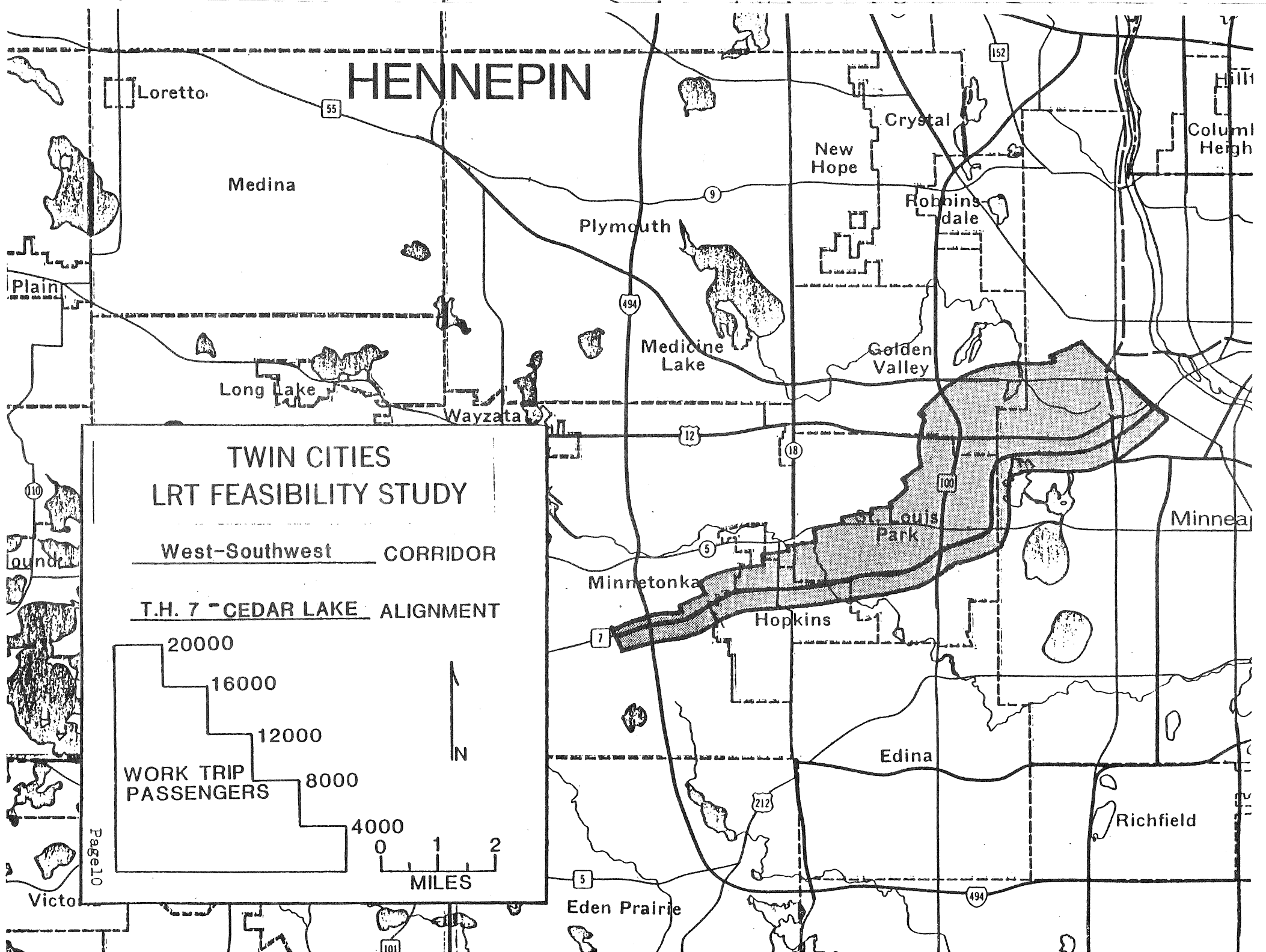
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TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed West Corridor Alignment
(Daily Assignment)

Station	One Way Total Trips On	Off	On-Board	Distance	Total Trip Ends
Walker St. & Lake St. (Wayzata)	611	0	611	0.50	1,221
Lake St. & TH 101	442	0	1,053	0.50	884
TH 101 & TH 12	751	0	1,804	1.50	1,502
I-494 & TH 12	2,572	623	3,753	1.50	6,388
Ridgedale Dr. & TH 12 (Ridgedale)	306	130	3,929	0.50	874
CR 73 & TH 12	582	455	4,056	1.10	2,072
CR 18 & TH 12	2,543	1,606	4,993	0.90	8,298
Texas Ave. & TH 12	279	282	4,990	0.40	1,122
Louisiana Ave. & TH 12	1,300	892	5,398	0.50	4,383
Colorado Ave. & TH 12	280	368	5,310	0.40	1,295
Vernon Ave. & TH 12	1,922	900	6,332	0.75	5,644
Tyrol Hills & TH 12	696	350	6,678	1.20	2,091
Penn Ave. & TH 12	976	644	7,010	0.75	3,240
Wayzata & Linden Ave. (Parade)	666	608	7,068	1.10	2,546
6th St. & Second Ave. N	0	375	6,693	0.10	749
Hennepin Ave. & 6th St. S	0	1,361	5,432	0.10	2,721
Nicollet Ave. & 6th St. S	0	1,548	3,784	0.20	3,097
2nd Ave. S & 6th St. S	0	2,149	1,635	0.20	4,298
4th Ave. S & 6th St. S	0	1,335	300	0.30	2,670
Chicago & 6th St. S (Hospital)	0	300	0		599
TOTAL	13,426		55,087 Passenger Miles	12.50	54,694

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TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed West Corridor Alignment
(Peak Hour Assignments)

Station	A.M. Peak Inbound On	Off	On-Board	A.M. Peak Outbound On	Off	On-Board
Walker St. & Lake St. (Wayzata)	239	0	239	0	66	0
Lake St. & TH 101	169	0	408	0	54	66
TH 101 & TH 12	280	0	688	0	96	120
I-494 & TH 12	930	219	1,399	93	406	216
Ridgedale Dr. & TH 12 (Ridgedale)	73	24	1,448	42	81	529
CR 73 & TH 12	168	125	1,491	102	123	568
CR 18 & TH 12	855	553	1,793	250	467	589
Texas Ave. & TH 12	70	71	1,792	70	69	806
Louisiana Ave. & TH 12	475	220	2,047	226	125	805
Colorado Ave. & TH 12	66	130	1,983	54	75	704
Vernon Ave. & TH 12	690	275	2,398	175	321	725
Tyrol Hills & TH 12	313	95	2,616	80	35	871
Penn Ave. & TH 12	245	177	2,684	146	193	826
Wayzata & Linden Ave. (Parade)	226	138	2,772	166	107	873
6th St. & Second Ave. N	0	158	2,612	30	0	814
Hennepin Ave. & 6th St. S	0	524	2,090	157	0	784
Nicollet Ave. & 6th St. S	0	632	1,558	192	0	627
2nd Ave. S & 6th St. S	0	858	600	267	0	435
4th Ave. S & 6th St. S	0	510	90	158	0	168
Chicago & 6th St. S (Hospital)	0	90	0	10	0	10
TOTAL	4,799			2,218		

TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed West Corridor Alignment
(Access Modal Split at Station)

Station	Total Trip Ends Auto	Bus	Walk	A.M. Peak Auto	Bus Arrival	Bus Departure	Walk
Walker St. & Lake St. (Wayzata)	769	330	122	192	65	18	31
Lake St. & TH 101	610	186	88	154	35	11	22
TH 101 & TH 12	901	270	330	226	50	17	83
I-494 & TH 12	4,577	1,577	124	1,190	231	196	31
Ridgedale Dr. & TH 12 (Ridgedale)	280	157	437	70	21	19	110
CR 73 & TH 12	1,077	601	394	269	78	72	98
CR 18 & TH 12	6,224	1,812	162	1,609	221	254	41
Texas Ave. & TH 12	314	449	359	78	56	56	90
Louisiana Ave. & TH 12	2,486	1,337	460	403	147	68	76
Colorado Ave. & TH 12	0	648	648	0	60	103	163
Vernon Ave. & TH 12	3,925	1,238	381	1,026	168	171	95
Tyrol Hills & TH 12	1,046	481	565	262	90	30	141
Penn Ave. & TH 12	1,327	730	1,084	370	94	89	309
Wayzata & Linden Ave. (Parade)	1,935	280	331	484	43	27	83
6th St. & Second Ave. N	0	105	644	0	4	22	162
Hennepin Av.e & 6th St. S	0	1,361	1,260	0	132	246	353
Nicollet Ave. & 6th St. S	0	1,643	1,325	0	156	293	369
2nd Ave. S & 6th St. S	0	2,140	2,058	0	186	387	552
4th Ave. S & 6th St. S	0	1,211	1,359	0	104	216	348
Chicago & 6th St. S (Hospital	0	0	499	0	0	0	10

TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed Southwest Corridor Alignment
(Daily Assignment)

Station	One-Way Total Trips On	Off	On-Board	Distance	Total Trip Ends
TH 101 & CNW	2,297	--	2,297	2.0	4,594
I 494 & CNW	800	284	2,813	1.0	2,166
Plymouth Rd. & CNW (Minnetonka Mills)	206	145	2,874	1.3	700
17th Ave. & CNW	369	212	3,031	0.3	1,161
12th Ave. & CNW	187	84	3,134	0.5	541
Excelsior Ave. & CNW (Hopkins)	1,477	890	3,721	1.2	4,734
Blake Rd. & CNW	404	357	3,768	1.0	1,520
"New" St. & CNW	668	113	4,323	0.6	1,560
Woodale Ave. & CNW	2,159	1,120	5,362	0.8	6,257
Bass Lake & CNW	239	205	5,396	1.0	887
Lake St. & CNW	1,733	1,296	5,833	0.5	6,057
28th & CNW	269	90	6,012	0.6	717
21st & CNW	541	103	6,450	1.3	1,286
Wayzata Blvd. & CNW RR (Parade)	1,339	819	6,970	1.1	4,314
2nd Ave. N & 6th St. S	--	890	6,080	0.1	1,780
Hennepin & 6th St. S	--	2,049	4,031	0.1	4,098
Nicollet Ave. & 6th St. S	--	1,826	2,205	0.2	3,652
2nd Ave. S & 6th St. S	--	1,412	793	0.2	2,825
4th Ave. S & 6th St. S	--	617	176	0.3	1,234
Chicago & 6th St. S (Stadium)	--	176	0		351
TOTAL	12,688	12,688	58,371 Passenger miles	15.1	50,434

TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

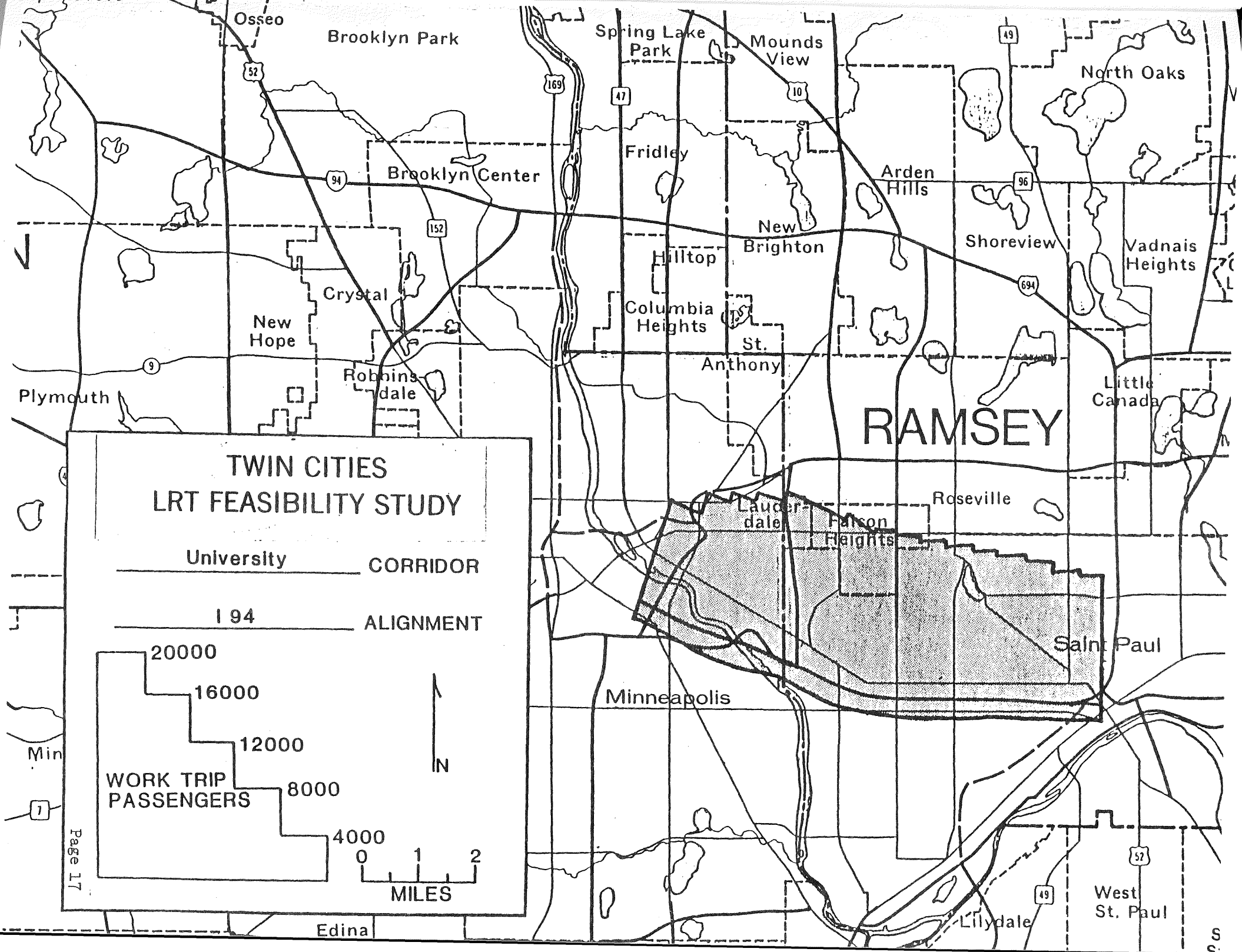
Proposed Southwest Corridor Alignment
(Peak Hour Assignments)

Station	A.M. Peak Inbound			A.M. Peak Outbound		
	On	Off	On-Board	On	Off	On-Board
TH 101 & CNW	910	--	910	--	238	--
I 494 & CNW	288	121	1,077	22	112	238
Plymouth Rd. & CNW (Minnetonka Mills)	61	64	1,074	9	42	328
17th Ave. & CNW	172	64	1,182	42	13	361
12th Ave. & CNW	72	31	1,223	11	22	332
Excelsior Ave. & CNW (Hopkins)	545	304	1,464	141	193	343
Blake Rd. & CNW	105	115	1,454	63	97	395
"New" St. & CNW	210	35	1,629	21	124	429
Woodale Ave. & CNW	742	370	2,001	190	338	532
Bass Lake & CNW	82	84	1,999	19	37	680
Lake St. & CNW	596	314	2,281	334	271	698
28th & CNW	73	24	2,330	21	63	635
21st & CNW	200	20	2,510	31	71	677
Wayzata Blvd. & CNW RR (Parade)	381	228	2,663	182	289	717
2nd Ave. N & 6th St. S	--	265	2,398	181	--	824
Hennepin & 6th St. S	--	765	1,633	260	--	643
Nicollet Ave. & 6th St. S	--	679	954	234	--	383
2nd Ave. S & 6th St. S	--	576	378	130	--	149
4th Ave. S & 6th St. S	--	298	80	11	--	19
Chicago & 6th St. S (Stadium)	--	80	0	8	--	8
TOTAL	4,437	4,437	29,240	1,910	1,910	8,391

TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed Southwest Corridor Alignment
(Access Modal Split at Station)

Station	Total Trip Ends			A.M. Peak			
	Auto	Bus	Walk	Auto	Bus Arrival	Bus Departure	Walk
TH 101 & CNW	3,661	694	239	915	137	36	60
I 494 & CNW	1,464	503	199	367	72	54	50
Plymouth Rd. & CNW (Minnetonka Mills)	368	202	130	92	20	31	176
17th Ave. & CNW	280	60	821	70	11	4	292
12th Ave. & CNW	87	18	436	22	3	2	137
Excelsior Ave. & CNW (Hopkins)	2,890	1,047	801	722	152	110	1,183
Blake Rd. & CNW	58	15	1,447	14	2	2	381
"New" St. & CNW	0	0	1,560	0	0	0	391
Woodale Ave. & CNW	4,480	1,402	375	1,174	209	159	1,640
Bass Lake & CNW	161	63	663	40	7	9	223
Lake St. & CNW	3,864	1,369	824	967	210	132	1,515
28th & CNW	0	0	717	0	0	0	182
21st & CNW	440	118	728	110	21	8	323
Wayzata Blvd. & CNW RR (Parade)	3,141	828	345	786	108	99	1,080
2nd Ave. N & 6th St. S	0	1,493	287	0	152	222	446
Hennepin & 6th St. S	0	2,746	1,352	0	174	613	1,025
Nicollet Ave. & 6th St. S	0	1,512	2,140	0	97	281	914
2nd Ave. S & 6th St. S	0	873	1,952	0	40	178	707
4th Ave. S & 6th St. S	0	63	1,171	0	1	15	310
Chicago & 6th St. S (Stadium)	0	62	289	0	1	14	89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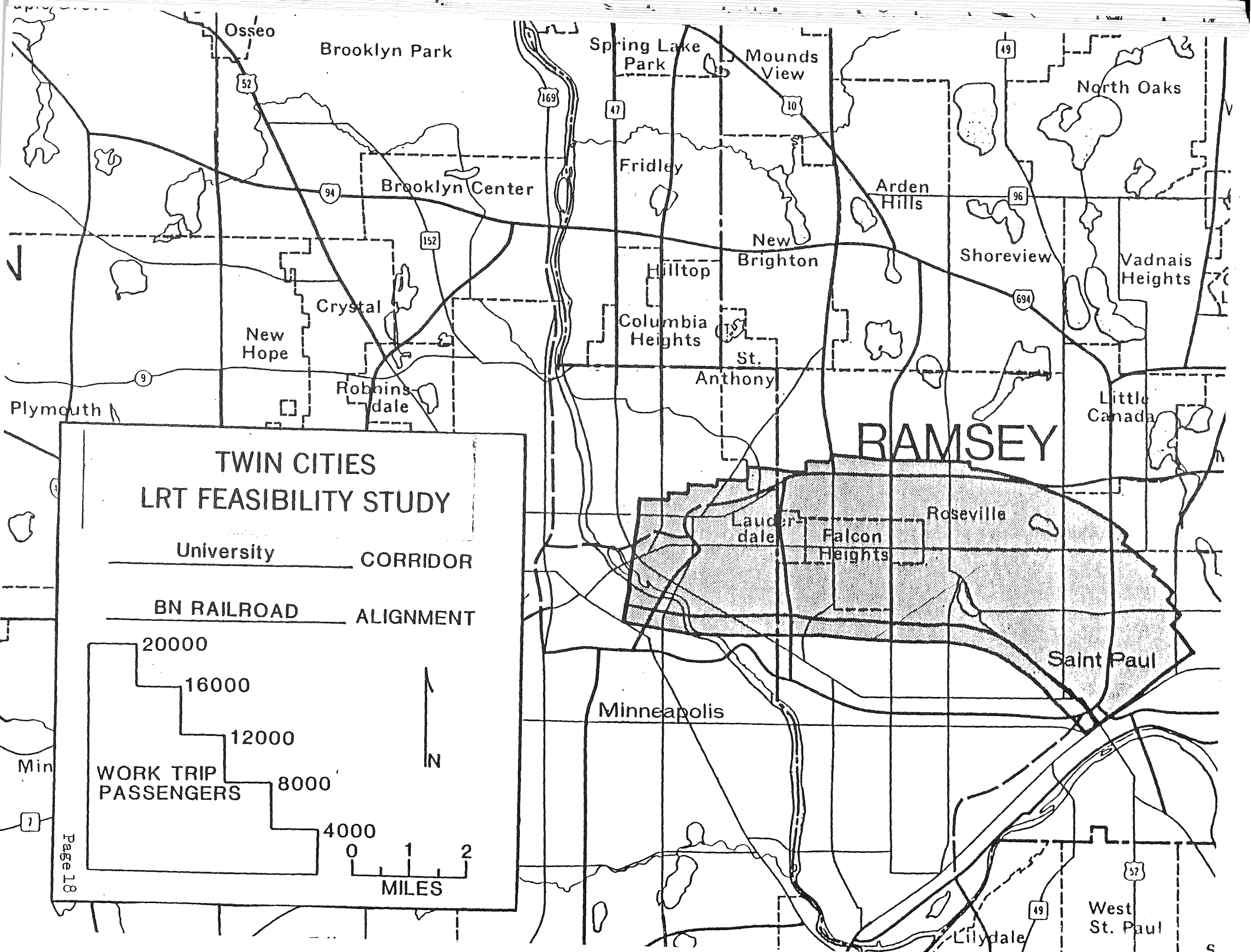
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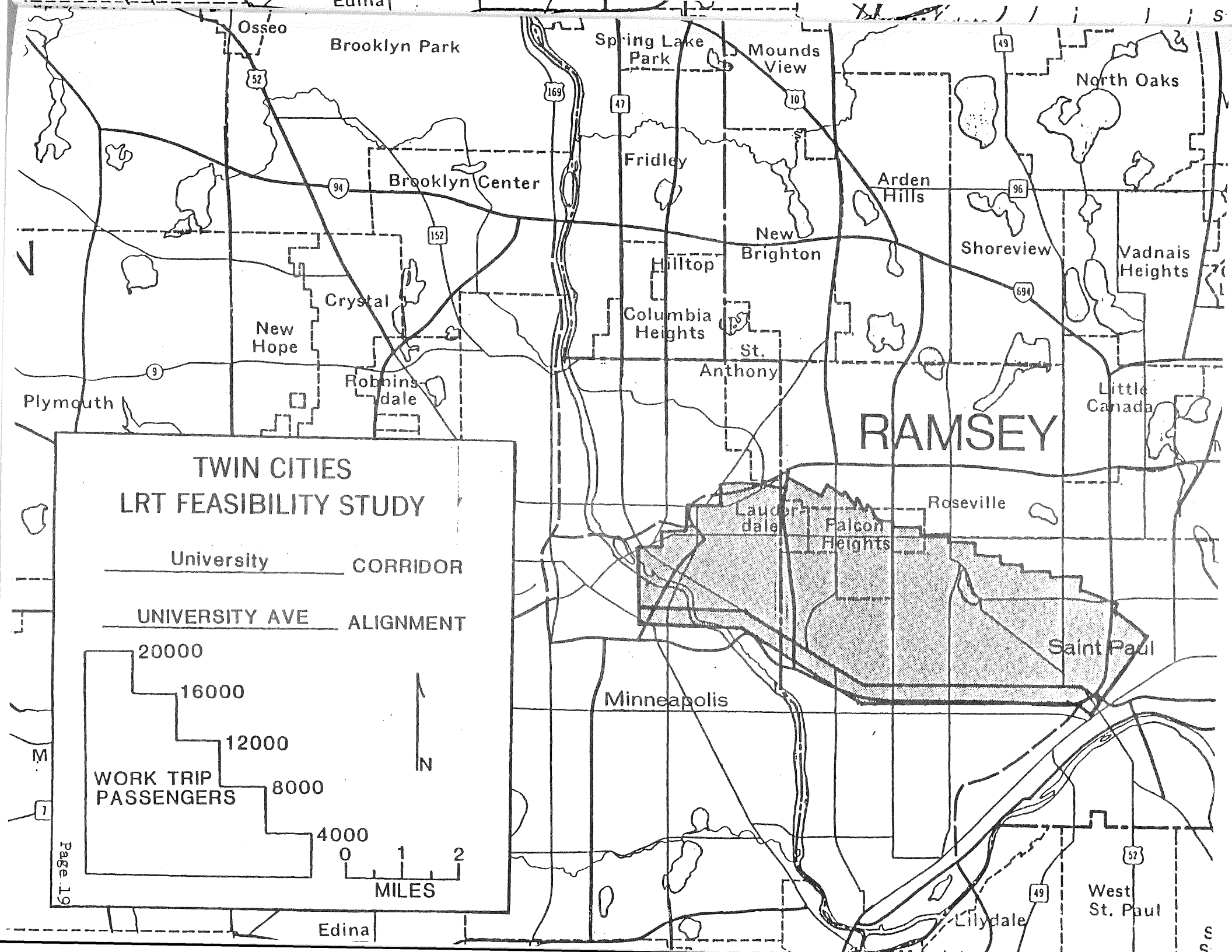
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TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed St. Paul-Minneapolis Corridor Alignment
(Daily Alignment)

Stops	One Way Total Trips On	Off	On-Board	Distance	Total Trip Ends
Kellogg & Wabahsa St.	0	2,322	0	0.14	4,644
5th & Wabasha Sts.	0	2,166	2,322	0.14	4,332
7th & Wabasha Sts.	0	2,832	4,496	0.34	5,664
10th & Wabasha Sts.	0	669	7,324	0.19	1,338
Columbus Ave. & Wabasha St. (Veterans Bldg.)	309	282	7,993	0.24	1,182
Capitol Ave. & Wabasha St. (Capitol)	630	2,532	7,966	0.24	6,324
Rice St. & University Ave.	334	323	9,868	0.50	1,314
Western Ave. & University Ave.	422	330	9,857	0.50	1,504
Dale St. & University Ave.	754	630	9,765	0.50	2,768
Victoria St. & University Ave.	520	328	9,641	0.50	1,696
Lexington Pkwy. & University Ave.	1,031	983	9,449	0.50	4,028
Snelling Ave. & University Ave.	436	358	9,401	0.50	1,588
Hamline Ave. & University Ave.	954	1,184	9,323	0.50	4,276
Fairview Ave. & University Ave.	827	919	9,553	0.50	3,492
Transfer & University Ave. (AMTRAK)	131	328	9,645	0.50	918
Raymond & University Ave.	324	358	9,842	0.50	1,364
Emerald & University Ave. (City Limits)	234	212	9,876	0.50	892
Malcolm St. & University Ave.	328	487	9,854	0.30	1,630
Oak St. & Washington Ave. SE	1,011	1,787	10,013	0.50	5,596
Coffman Union & Washingon Ave. SE (U of M)	516	1,025	10,789	0.43	3,082
W. Bank & Washington Ave. S (U of M)	453	914	11,298	0.33	2,734
Cedar Ave. & Washington Ave.	250	642	11,759	0.24	1,784
Chicago Ave. & 3rd St. S (Stadium)	604	196	12,151	0.63	1,600
4th Ave. & 3rd St. S	1,428	0	11,742	0.27	2,856
2nd Ave. & 3rd St. S	3,463	0	10,315	0.14	6,926
Nicollet Ave. & 3rd St. S	3,378	0	6,852	0.14	6,756
Hennepin Ave. & 3rd St. S	3,166	0	3,474	0.05	6,332
2nd Ave. N & 3rd St. S	308	0	308	0.14	616
TOTAL	21,809		93,144 Passenger Miles	9.46	87,236

Revised 2/3/81

TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed St. Paul-Minneapolis Corridor Alignment
(Peak Period Assignments)

Stops	A.M. Peak Eastbound On	Off	On-Board	A.M. Peak Westbound On	Off	On-Board
Kellogg & Wabahsa St.	0	802	0	350	0	350
5th & Wabasha Sts.	0	733	802	341	0	691
7th & Wabasha Sts.	0	1,000	1,541	404	0	1,095
10th & Wabasha Sts.	0	180	2,541	151	0	1,246
Columbus Ave. & Wabasha St. (Veterans Bldg.)	124	126	2,721	34	9	1,271
Capitol Ave. & Wabasha St. (Capitol)	219	858	2,720	437	53	1,655
Rice St. & University Ave.	123	81	3,359	63	35	1,683
Western Ave. & University Ave.	163	48	3,317	100	35	1,748
Dale St. & University Ave.	284	83	3,202	199	71	1,876
Victoria St. & University Ave.	170	64	3,001	84	71	1,889
Lexington Pkwy. & University Ave.	415	248	2,895	191	71	2,009
Hamline Ave. & University Ave.	99	112	2,728	48	106	1,951
Snelling Ave. & University Ave.	300	226	2,741	302	160	2,093
Fairview Ave. & University Ave.	261	135	2,667	275	133	2,235
Transfer & University Ave. (AMTRAK)	31	134	2,541	11	35	2,211
Raymond & University Ave.	114	43	2,644	117	43	2,285
Emerald & University Ave. (City Limits)	57	53	2,573	43	53	2,275
Malcolm St. & University Ave.	87	25	2,569	191	71	2,395
Oak St. & Washington Ave. SE	317	412	2,507	381	177	2,599
Coffman Union & Washingon Ave. SE (U of M)	77	426	2,602	28	177	2,450
W. Bank & Washington Ave. S (U of M)	77	355	2,951	50	148	2,352
Cedar Ave. & Washington Ave.	109	75	3,229	209	18	2,543
Chicago Ave. & 3rd St. S (Stadium)	178	48	3,195	37	111	2,469
4th Ave. & 3rd St. S	300	0	3,065	0	373	2,998
2nd Ave. & 3rd St. S	909	0	2,765	0	722	1,376
Nicollet Ave. & 3rd St. S	905	0	1,856	0	685	685
Hennepin Ave. & 3rd St. S	911	0	951	0	580	105
2nd Ave. N & 3rd St. S	40	0	40	0	105	0
	6,267			4,046		

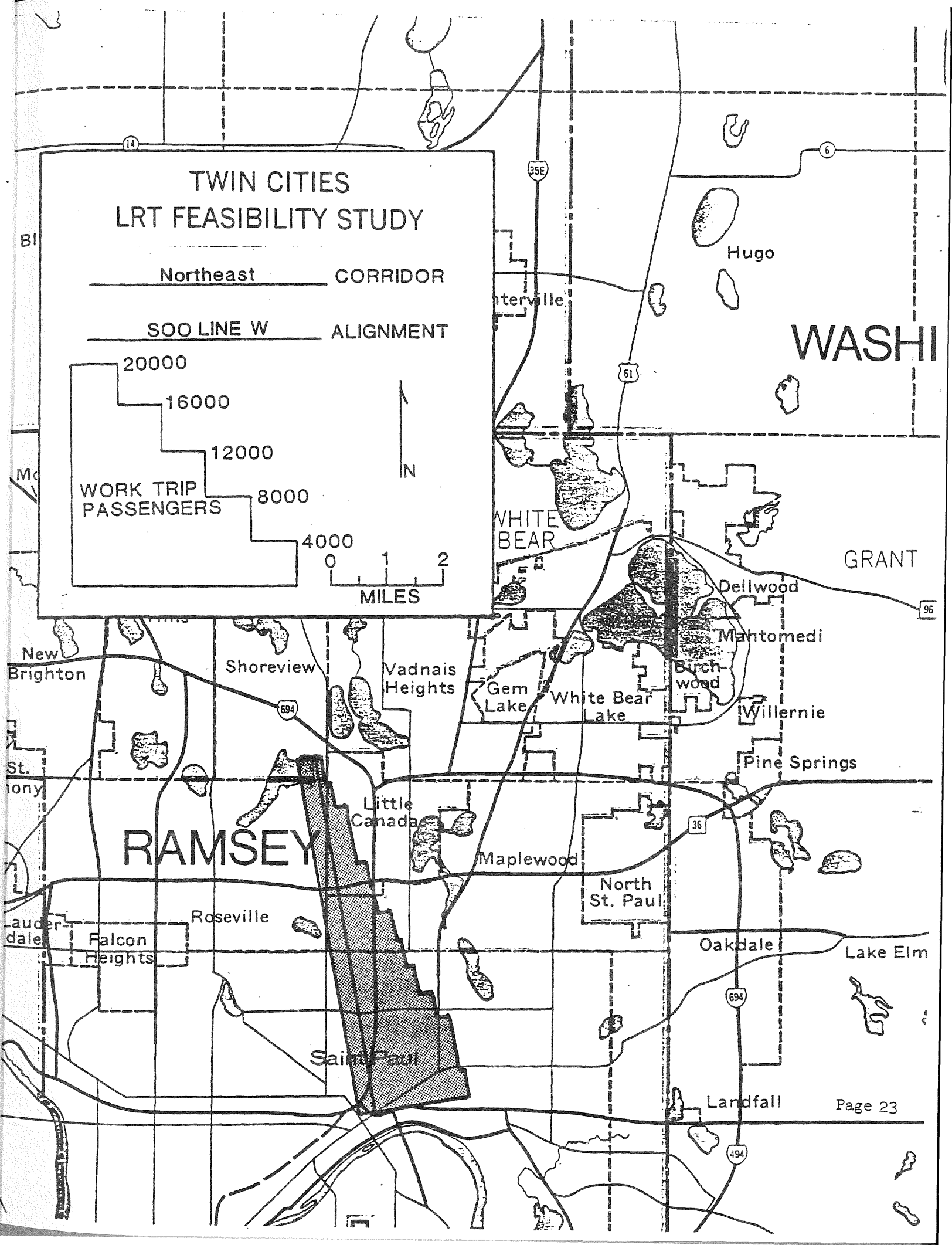
Revised 2/3/81

TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed St. Paul-Minneapolis Corridor Alignment
(Access Modal Split at Station)

Stops	Total Trip Ends			A.M. Peak			
	Auto	Bus	Walk	Auto	Bus Arrival	Bus Departure	Walk
Kellogg & Wabahsa St.	0	3,566	1,078	0	380	545	227
5th & Wabasha Sts.	0	2,750	1,582	0	309	423	342
7th & Wabasha Sts.	0	4,113	1,551	0	428	647	329
10th & Wabasha Sts.	0	499	839	0	75	65	191
Columbus Ave. & Wabasha St.(Veterans Bldg.)	0	365	817	0	43	120	130
Capitol Ave. & Wabasha St. (Capitol)	0	5,444	880	0	700	688	179
Rice St. & University Ave.	560	176	578	126	23	21	134
Western Ave. & University Ave.	0	0	1,504	0	0	0	346
Dale St. & University Ave.	352	1,553	864	74	247	126	190
Victoria St. & University Ave.	0	373	1,323	0	53	40	296
Lexington Pkwy. & University Ave.	242	3,101	685	51	414	313	147
Hamline Ave. & University Ave.	0	516	1,072	0	42	84	239
Snelling Ave. & University Ave.	910	1,985	1,380	194	256	233	305
Fairview Ave. & University Ave.	0	2,050	1,442	0	283	205	315
Transfer & University Ave. (AMTRAK)	0	0	918	0	0	0	211
Raymond & University Ave.	328	565	470	72	88	51	106
Emerald & University Ave. (City Limits)	0	0	892	0	0	0	206
Malcolm St. & University Ave.	0	978	652	0	139	75	160
Oak St. & Washington Ave. SE	1,910	633	3,052	425	74	85	703
Coffman Union & Washingon Ave. SE (U of M)	0	0	3,082	0	0	0	708
W. Bank & Washington Ave. S (U of M)	0	0	2,734	0	0	0	630
Cedar Ave. & Washington Ave.	0	0	1,784	0	0	0	411
Chicago Ave. & 3rd St. S (Stadium)	506	756	337	0	156	109	109
4th Ave. & 3rd St. S	0	2,604	252	0	299	320	55
2nd Ave. & 3rd St. S	0	6,670	256	0	924	651	56
Nicollet Ave. & 3rd St. S	0	7,363	283	0	963	576	51
Hennepin Ave. & 3rd St. S	0	6,047	285	0	908	520	62
2nd Ave. N & 3rd St. S	0	464	152	0	66	17	62

Revised 2/3/81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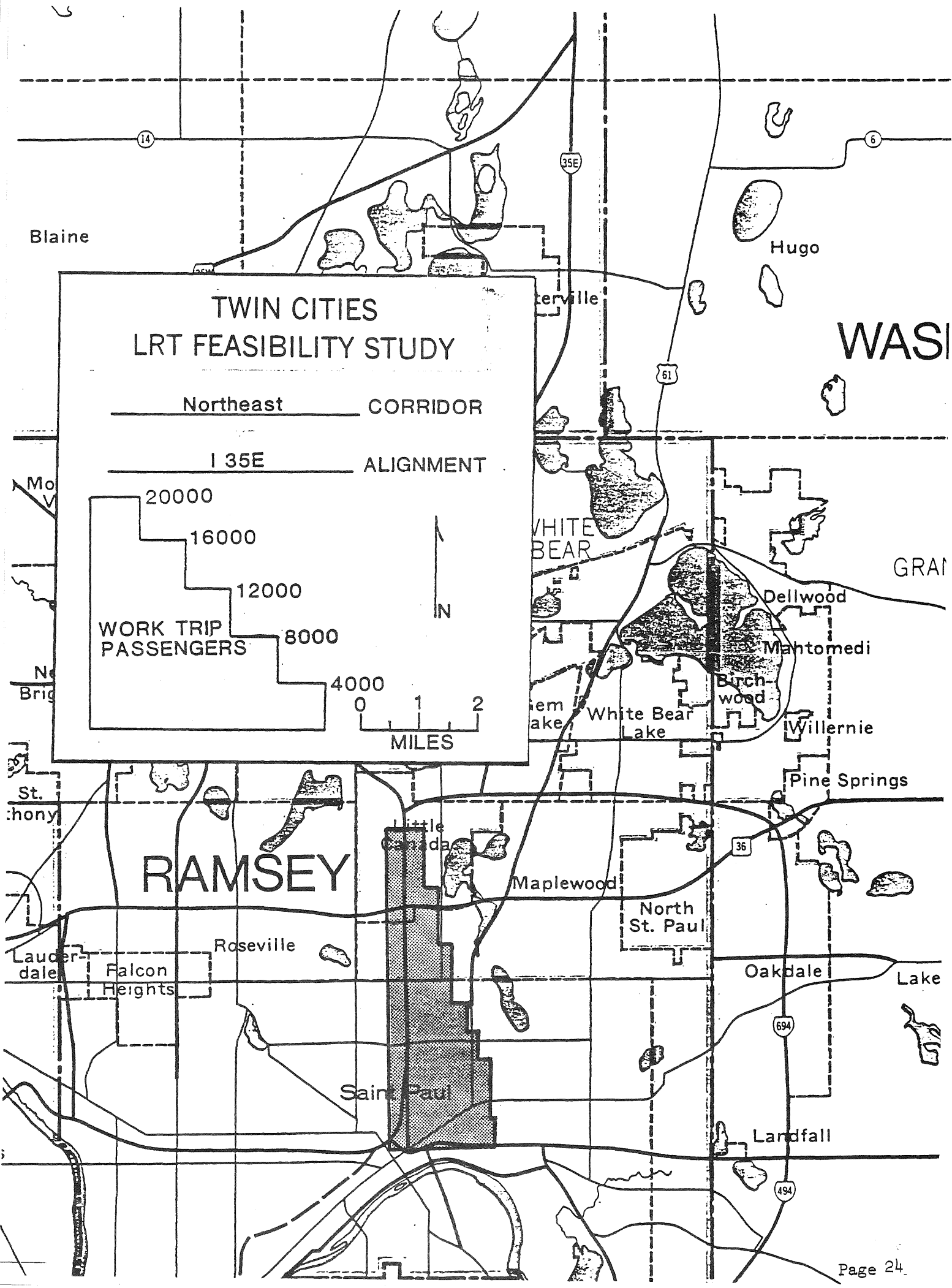
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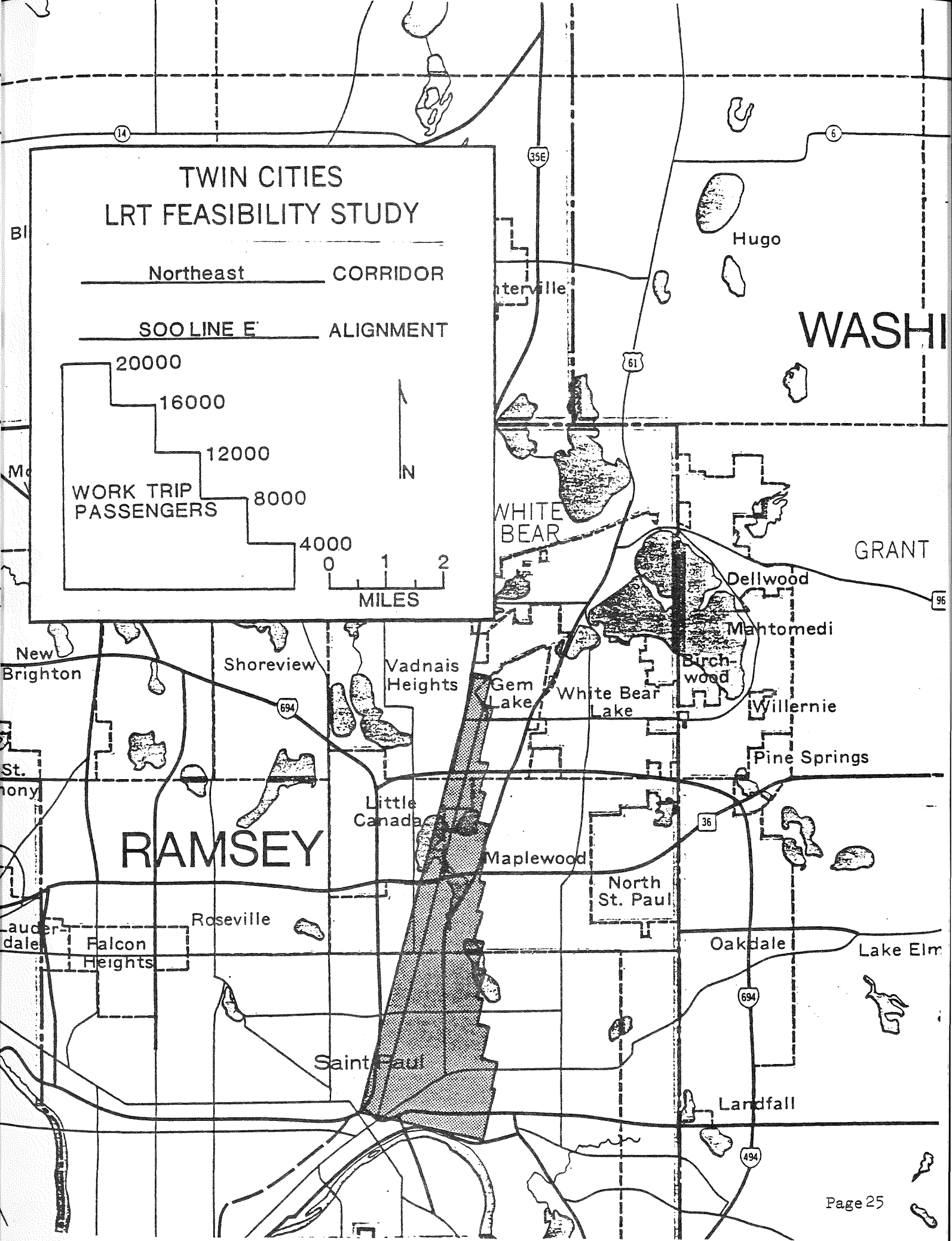
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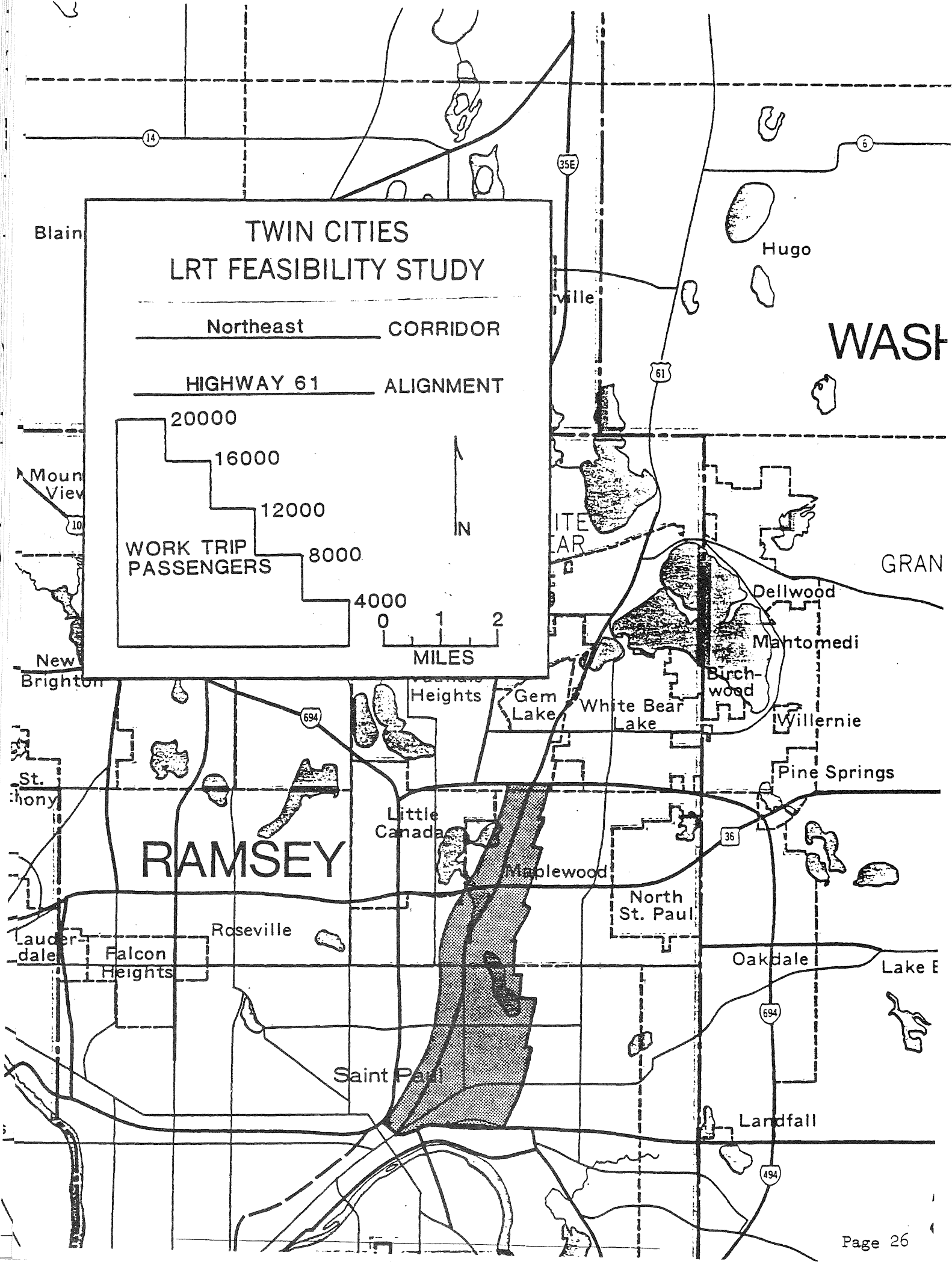
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TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed St. Paul Northeast Corridor Alignment
(Daily Assignment)

Station	One Way Total Trips On	Off	On-Board	Distance	Total Trip Ends
White Bear & C.R. D (I694)	3,704	0	3,704	0.60	7,408
Beam Ave. & Maplewood Mall	604	0	4,308	0.65	1,208
Beam & BN Railroad	73	0	4,381	0.50	146
C.R. C & BN Railroad	239	90	4,530	0.70	658
Cope & BN (TH36)	1,678	568	5,640	0.75	4,492
Frost & BN Railroad	370	134	5,876	0.50	1,008
Larpenteur & BN Railroad	824	237	6,463	0.50	2,122
Arlington & BN Railroad	432	119	6,776	0.50	1,102
Maryland & BN Railroad	368	119	7,025	0.85	974
Earl & East 7th	84	16	7,093	0.50	200
Arcade & BN Railroad	624	254	7,463	0.82	1,756
Payne & Collin	0	41	7,422	0.85	82
St. Paul-Ramsey Hospital	0	326	7,096	0.25	652
Central & Cedar St. (Capital)	0	882	6,214	0.14	1,764
Columbus Ave. & Cedar St.	0	188	6,026	0.19	376
10th & Cedar St.	0	1,235	4,791	0.19	2,470
7th & Cedar St.	0	1,483	3,308	0.14	2,966
5th & Cedar St.	0	1,801	1,507	0.14	3,602
Kellogg & Cedar St.	0	1,507	0		3,014
TOTAL	9,000		51,491 Passenger Miles	8.77	36,000

2/13/81

TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed St. Paul Northeast Corridor Alignment
(Peak Period Assignments)

Station	A.M. Peak Inbound On	Off	On-Board	A.M. Peak Outbound On	Off	On-Board
White Bear & C.R. D (I694)	1,565	0	1,565	0	291	0
Beam Ave. & Maplewood Mall	122	0	1,687	0	181	291
Beam & BN Railroad	30	0	1,717	0	7	472
C.R. C & BN Railroad	109	31	1,795	10	11	479
Cope & BN (TH36)	770	151	2,414	106	72	480
Frost & BN Railroad	179	26	2,567	36	7	446
Larpenteur & BN Railroad	403	36	2,934	72	10	417
Arlington & BN Railroad	195	21	3,108	33	7	355
Maryland & BN Railroad	178	19	3,267	36	9	329
Earl & East 7th	26	0	3,293	7	16	302
Arcade & BN Railroad	277	79	3,491	36	36	311
Payne & Collin	0	10	3,481	9	0	311
St. Paul-Ramsey Hospital	0	114	3,367	33	0	302
Central & Cedar St. (Capital)	0	443	2,924	9	0	269
Columbus Ave. & Cedar St.	0	87	2,837	9	0	260
10th & Cedar St.	0	613	2,224	20	0	251
7th & Cedar St.	0	729	1,495	32	0	231
5th & Cedar St.	0	786	709	136	0	199
Kellogg & Cedar St.	0	709	0	63	0	63
TOTAL	3,854			645		

2/13/81

TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed St. Paul Northeast Corridor Alignment
(Access Modal Split at Station)

Station	Total Trip Ends			A.M. Peak			
	Auto	Bus	Walk	Auto	Bus Arrivals	Bus Departures	Walk
White Bear & C.R. D (I694)	5,442	1,986	0	1,357	79	420	0
Beam Ave. & Maplewood Mall	665	419	124	166	63	43	31
Beam & BN Railroad	79	37	30	21	1	7	7
C.R. C & BN Railroad	311	112	235	77	7	20	57
Cope & BN (TH36)	2,793	1,070	629	384	91	359	266
Frost & BN Railroad	294	82	631	71	3	17	157
Larpenteur & BN Railroad	1,094	165	863	269	3	37	212
Arlington & BN Railroad	602	89	410	136	3	24	94
Maryland & BN Railroad	610	109	205	165	3	25	49
Earl & East 7th	85	41	75	19	3	6	22
Arcade & BN Railroad	1,186	417	153	288	27	75	37
Payne & Collin	17	10	55	4	1	1	12
St. Paul-Ramsey Hospital	0	92	560	0	16	4	127
Central & Cedar St. (Capital)	0	202	1,562	0	51	1	399
Columbus Ave. & Cedar St.	0	202	174	0	47	4	44
10th & Cedar St.	0	1,831	639	0	454	14	164
7th & Cedar St.	0	1,878	1,088	0	462	20	279
5th & Cedar St.	0	2,875	727	0	628	109	186
Kellogg & Cedar St.	0	2,261	753	0	532	47	193

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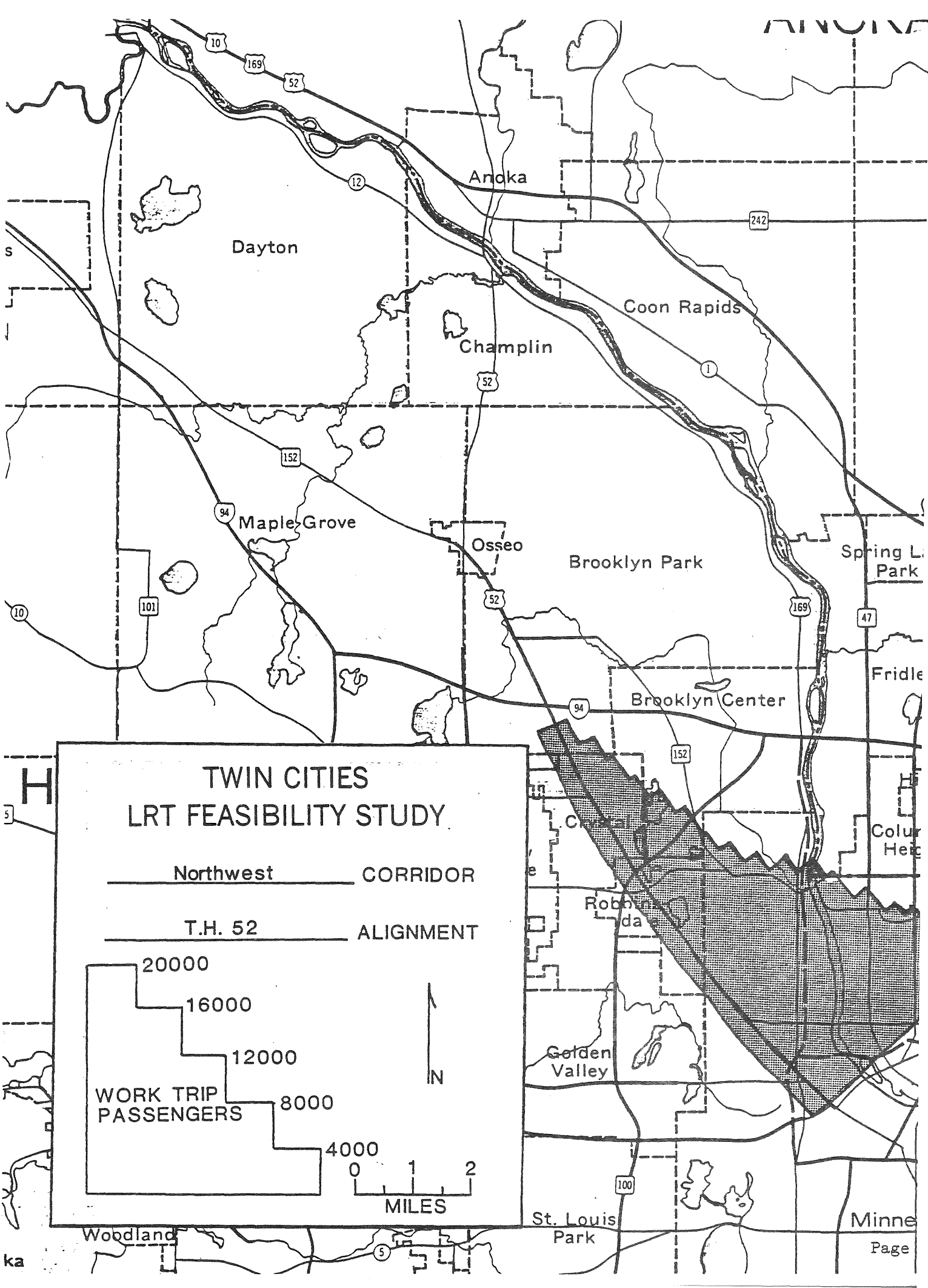
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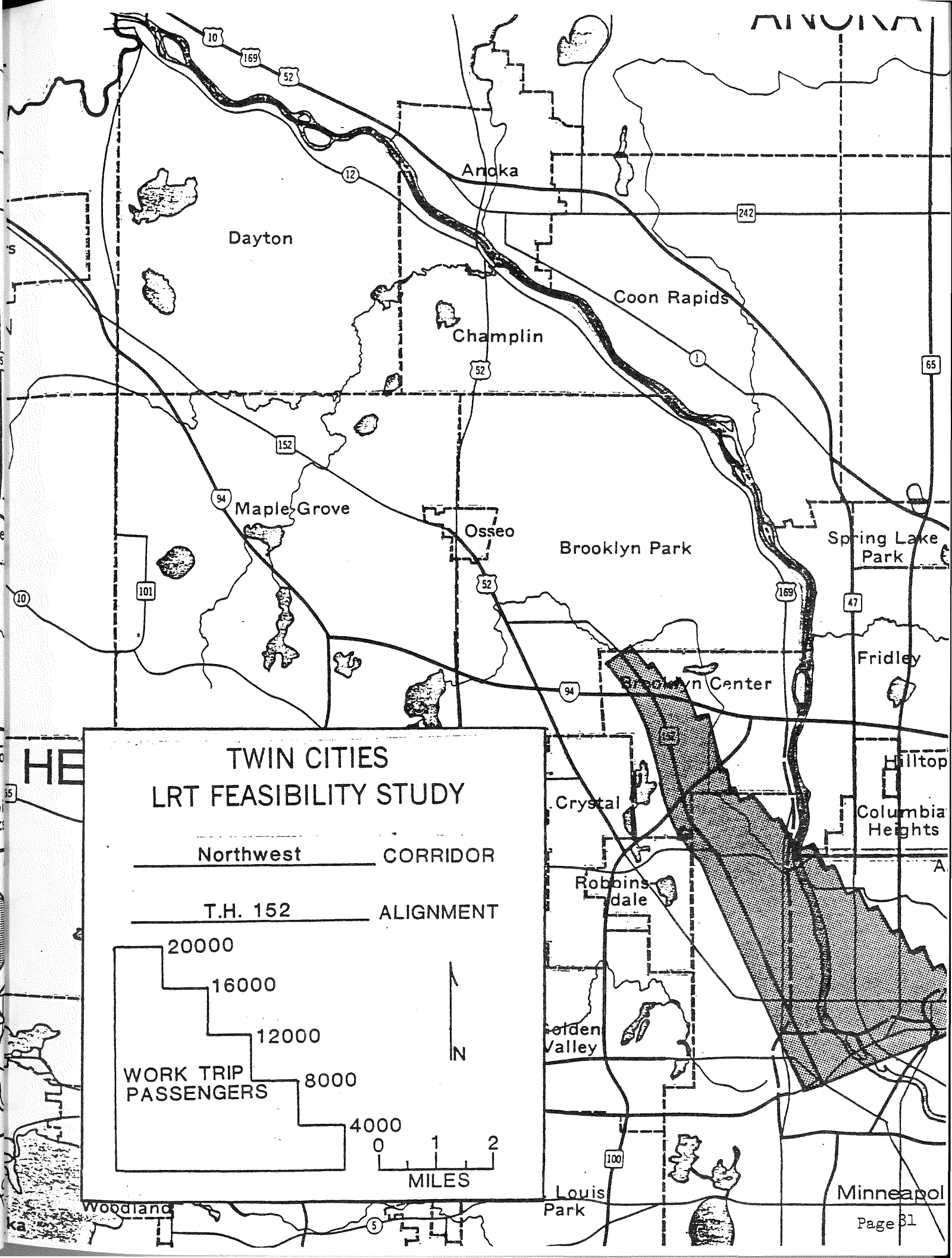
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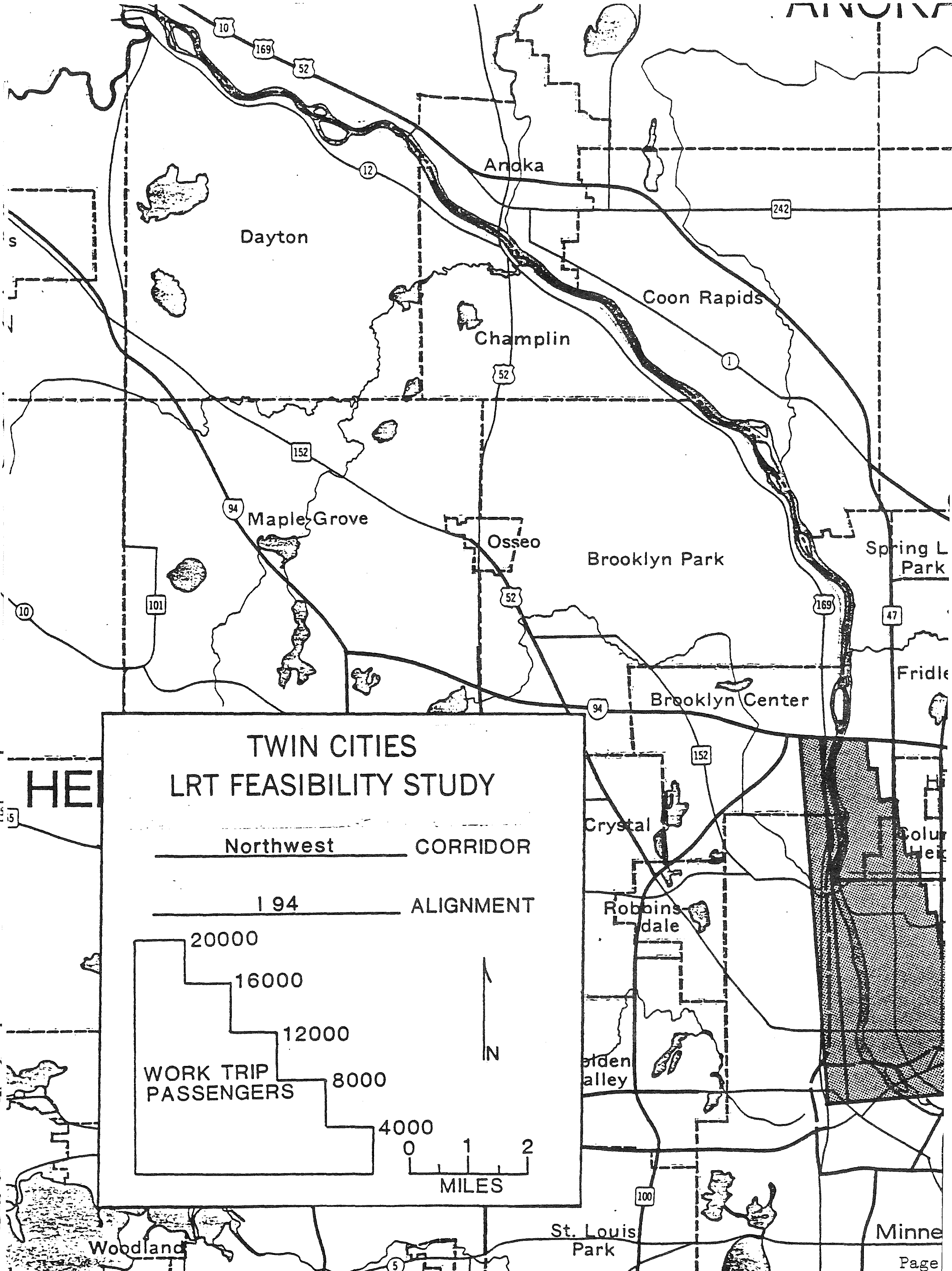
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TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed Northwest Corridor Alignment
(Daily Assignment)

Station	One Way Total Trips On	Off	On-Board	Distance	Total Trip Ends
Bass Lake Rd. & Brooklyn Blvd.	1,497	0	1,497	0.39	2,994
55th Ave. & Brooklyn Blvd. (Brookdale)	2,192	0	3,689	0.62	3,484
50th Ave. & Drew	3,374	1,098	5,965	1.40	8,944
Lake Dr. & N. Broadway	4,014	1,171	8,808	0.77	10,370
France Ave. & N. Broadway	713	210	9,311	0.82	1,846
Lowry Ave. & N. Broadway	967	337	9,941	0.34	2,608
29th Ave. & N. Broadway	506	201	10,246	0.55	1,414
Penn Ave. & N. Broadway	639	334	10,551	0.50	1,946
Knox Ave. & N. Broadway	118	111	10,558	0.34	458
Broadway & Emerson Ave. N	891	315	11,134	0.24	2,412
16th Ave. & Emerson Ave. N	181	124	11,186	0.20	620
Plymouth Ave. & Emerson Ave. N	129	177	11,138	0.30	612
Lyndale Ave. & 7th Ave. N	2,129	1,617	11,650	1.10	7,492
Hennepen Ave. & 8th St. S	0	1,612	10,038	0.15	3,224
Nicollet Ave. & 8th St. S	0	2,336	7,702	0.14	4,672
2nd Ave. & 8th St. S	0	3,453	4,249	0.14	6,906
4th Ave. & 8th St. S	0	2,509	1,740	0.30	5,018
Chicago & 8th St. S (Hospital)	0	1,740	0		3,480
TOTAL	17,350		68,286	7.30	69,400

2/13/81

TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed Northwest Corridor Alignment
(Peak Period Assignments)

Station	A.M. Peak Inbound On	Off	On-Board	A.M. Peak Outbound On	Off	On-Board
Bass Lake Rd. & Brooklyn Blvd.	509	0	509	0	231	0
55th Ave. & Brooklyn Blvd. (Brookdale)	706	0	1,215	0	333	231
50th Ave. & Drew	1,539	401	2,353	124	141	564
Lake Dr. & N. Broadway	1,780	437	3,696	124	212	581
France Ave. & N. Broadway	342	64	3,974	35	14	669
Lowry Ave. & N. Broadway	436	87	4,323	71	45	648
29th Ave. & N. Broadway	213	78	4,458	18	37	622
Penn Ave. & N. Broadway	299	47	4,710	106	23	641
Knox Ave. & N. Broadway	109	39	4,780	14	28	558
Broadway & Emerson Ave. N	414	37	5,157	106	31	572
16th Ave. & Emerson Ave. N	65	39	5,183	23	21	497
Plymouth Ave. & Emerson Ave. N	107	47	5,243	35	18	495
Lyndale Ave. & 7th Ave. N	659	635	5,267	141	388	478
Hennepen Ave. & 8th St. S	0	691	4,576	135	0	725
Nicollet Ave. & 8th St. S	0	1,064	3,512	138	0	590
2nd Ave. & 8th St. S	0	1,634	1,878	148	0	452
4th Ave. & 8th St. S	0	1,151	727	141	0	304
Chicago & 8th St. S (Hospital)	0	727	0	163	0	163
TOTAL	7,178			1,522		

2/13/81

TWIN CITIES LIGHT RAIL TRANSIT FEASIBILITY STUDY

Proposed Northwest Corridor Alignment
(Access Modal Split at Station)

Station	Total Trip Ends			A.M. Peak			
	Auto	Bus	Walk	Auto	Bus Arrival	Bus Departure	Walk
Bass Lake Rd. & Brooklyn Blvd.	1,220	1,054	720	136	296	230	77
55th Ave. & Brooklyn Blvd. (Brookdale)	2,884	699	802	681	103	62	193
50th Ave. & Drew	2,836	5,465	643	700	926	421	158
Lake Dr. & N. Broadway	6,606	2,011	1,753	1,626	336	160	431
France Ave. & N. Broadway	631	535	681	263	63	18	111
Lowry Ave. & N. Broadway	551	905	1,152	136	161	60	283
29th Ave. & N. Broadway	548	296	570	133	43	29	141
Penn Ave. & N. Broadway	1,235	366	345	300	70	20	85
Knox Ave. & N. Broadway	0	125	333	0	30	21	138
Broadway & Emerson Ave. N	1,731	509	172	421	102	23	42
16th Ave. & Emerson Ave. N	0	0	620	0	0	0	148
Plymouth Ave. & Emerson Ave. N	124	74	414	42	15	9	141
Lyndale Ave. & 7th Ave. N	4,030	2,982	480	980	268	458	116
Hennepen Ave. & 8th St. S	0	2,314	910	0	177	415	234
Nicollet Ave. & 8th St. S	0	2,963	1,709	0	189	573	440
2nd Ave. & 8th St. S	0	3,344	3,562	0	184	679	920
4th Ave. & 8th St. S	0	2,732	2,286	0	169	529	594
Chicago & 8th St. S (Hospital)	0	1,740	1,740	0	116	639	135

2/13/81

III
CALCULATION METHODOLOGIES

A

VEHICLE REQUIREMENT CALCULATIONS

Vehicle needs are based on having sufficient vehicles available to meet peak period needs. Important components of vehicle calculation requirements are:

- Peak headway
- Hours of peak headway service
- Trip time
- Peak hour passengers passing the maximum load point
- Average peak hour passenger load

If a roundtrip takes 60 minutes and 120 minutes of peak period service are required, an inbound train leaving the terminus at 7:00 AM would be available for a second inbound trip at 8:00 AM. With 5 minute headways 11 additional trains would be needed or a total of 12 trains during the peak hour. The number of vehicles in each train would be arrived at by taking the number of passengers passing the maximum load point and dividing by 140 passengers (the desirable average peak hour passenger load per vehicle).

For example:

- 12 trains needed for peak hour service
- $\frac{2,660 \text{ passengers}}{140/\text{vehicle}}$ = 19 vehicles during peak hour
- 12 trains with a total of 19 vehicles
- Therefore there will be: 7-2 car trains and 5-1 car trains during the peak hour

B

ANNUAL VEHICLE MILE CALCULATIONS

Vehicle miles are calculated as follows for each corridor

Annual Vehicle Miles =

No. of Weekday Round Trips x Round Trip Mileage x 253 (No. of Weekdays)

Plus

No. of Saturday Round Trips* x Round Trip Mileage x 53 (No. of Saturdays)

Plus

No. of Sundays and Holiday Round Trips** x Round Trip Mileage x 60 (No. of Sundays and Holidays)

* 31% of Weekday Round Trips
** 12.5% of Weekday Round Trips

C

ANNUAL PASSENGER CALCULATIONS

Annual passengers for both LRT and Non-LRT alternatives are calculated as follows:

Annual Passengers =

No. of Daily Passengers x 294.5*

*Assumes 253 Weekdays at full daily passenger load

60 Saturdays at 50% of daily passenger load

53 Sundays and Holidays at 25% of daily passenger loa

D

ANNUALIZED CAPITAL COST CALCULATIONS

Annualized capital costs were determined by assuming useful lives for each category of capital expense and amortizing their cost over the life of the item at an assumed interest rate of approximately 9 percent based on 1980 State of Minnesota bond issues.

Useful lives, by item, are as follows:

LRT

Item	Useful Life (Years)
Track	40
Buildings and Facilities	20
Stops	40
Traction Power	40
Signals and Crossing Protection	40
Parking Lots	40
Light Rail Vehicles	30

BUS

Item	Useful Life (Years)
Buses	12
Buildings and Facilities	20
Roadway	40

Electric Trolley Bus

Item	Useful Life (Years)
Vehicles	25
Way	40
Buildings and Facilities	20

IV
LAND USE IMPACT DATA

A

TASKS UNDERTAKEN IN ASSESSING LAND USE IMPACTS

A. Assessment of prevailing community development attitudes, policies, tendencies, and regional development guidelines.

   1. Interviews with community officials

   2. Comprehensive plans

   3. Analysis of assessed valuation and mill rate data

   4. Metropolitan Council development plan

B. Identification of existing patterns of land use and zoning.

   1. Land use, survey, and aerial maps

   2. Comprehensive plans

   3. Windshield surveys

C. Review of land use impacts observed with LRT development in other communities.

   1. Literature acquisition

D. Identification, along proposed study alignments, of available parcels of vacant and redevelopable land.

   1. Metro Council vacant land inventory

   2. Follow-up with community planners

E. Development of criteria for evaluating land use impacts associated with proposed LRT station nodes.

   1. Based on community analysis, literature review, and regional land use characteristics.

F. Assessment of generalized land development patterns based on established criteria and categorized into three groups:

   1. Likely development between now and 1990.

   2. Development likely 1990-2000 independent of LRT decision

   3. LRT induced development 1990-2000

G. Projection of development impacts at each station node assuming non-LRT and LRT development scenarios, 1990-2000. Based on prevailing development patterns and existing community land use control standards.

   1. Follow-up and verification with individual community planners.

H. Determination of construction cost impacts associated with LRT-induced development at each station node, 1990-2000.

   1. Application of rules of thumb

   2. Current construction cost estimates

I. Aggregation of LRT-induced construction impacts for each affected community and the full alignment, 1990-2000. Impacts assuming no significant land use policy changes.

J. Projection of gross potential LRT-induced construction impacts for the full alignment, 1990-2000, assuming maximum coordination and supportive land use controls.

   1. Multiplier based on Metropolitan Council projections of sub-regional growth, 1990-2000.

Date: _____

B

Light Rail Transit Study Survey

Name _____ City _____

Address _____ Phone _____

1. How important is light rail transit to your municipality?

Unimportant	Somewhat Important	Important	Very Important	Extremely Important

2. Why is it _____ to your municipality?

_____

_____

3. Where are the major generators of traffic within your municipality?

Intersection	Company	Location

4. What land use policies have been developed in the last five years which would influence intensification of land use around an LRT transit station?

_____

_____

_____

5. Where have zoning changes increased land use densities during the last five years?

6. What downzoning has occurred in the last five years? What activities are proposed to downzone?

7. Is there an apparent demand for new office and retail space apartments in your municipality? If so, where is this demand?

8. What are the attitudes of your community/citizens toward additional development? Designate neighborhoods unfavorable, indifferent, favorable, or very favorable.

9. What are the attitudes of your local officials toward increased development?

10. Who are the key individuals in your community on LRT?

11. What is the status of your comprehensive plan? _____

_____

12. Is your zoning map current? _____

_____

13. How well does your Planning Commission and City Council work with developers? (uncooperative, cooperative) Define further:

_____

_____

14. Of the following, which tools for community development have been utilized?

Tax increment financing _____

Community Development Block Grant _____

Industrial Revenue Bonds _____

Other _____

15. On how many projects has the municipality worked joint agreements between public and private agencies? _____

_____

Give project name/developer.

_____

_____

16. What are some special characteristics of the community important to consider in the development of an LRT system? _____

_____

17. Historical data.

18. Building permit data.

19. Comprehensive Plan.

20. Where are vacant developable areas of land located?

Name/Title	Size	Classification

C

Vacant Land Profile Data

No. 1

City Brooklyn Park

Identification City Hall - Library complex area

Classification Buildable

Size 40 Acres

Ownership(s) City will be acquiring from a private firm. Additional Civic Center space needs.

Valuation (estimate) $3,000 per acre

Major Access Zane Avenue/85th and also a bikeway.

Major Intersection Zane Avenue/85th

Zoning Urban Reserve Current Land Use Vacant/City Hall/Library

Proposed Land Use Civic Center

Surrounding Development North Vacant

East Vacant

South Bank, fourplexes

West Vacant - low and moderate housing, shopping center

Topography Flat

Grade Problems None

Parking Unlimited

Comments Maplebrook feeder system for bikes, pedestrians.

Barriers to Utilization None

Utilities serving the Site: Storm Sewer Size

Utilities planned for 1990 - 2000: Sanitary Sewer Size

Gas X

Electricity X

Other Legal, Physical, Financial, or Social Constraints None

Assessor's Market Value Per Capita

RESIDENTIAL DEVELOPMENT

Corridor	1973 Market Value Per Capita	1973 Rank	1974 Market Value Per Capita	1974 Rank	1975 Market Value Per Capita	1975 Rank	1976 Market Value Per Capita	1976 Rank	1977 Market Value Per Capita	1977 Rank	1978 Market Value Per Capita	1978 Rank	1979 Market Value Per Capita	1979 Rank
West/Southwest Minneapolis Corridor														
Golden Valley	$ 8,970	1	$ 9,231	1	$10,173	1	$11,347	1	$11,424	1	$13,365	1	$15,389	1
Hopkins	7,373	4	7,534	5	7,934	5	8,718	5	8,389	5	9,455	5	10,619	5
Minneapolis	5,470	6	5,689	6	6,196	6	6,791	6	6,893	6	7,838	6	9,425	6
Minnetonka	8,208	2	8,362	2	9,204	2	10,043	3	9,995	3	12,009	3	14,228	3
Plymouth	7,270	5	7,899	4	9,039	3	10,159	2	10,190	2	12,156	2	14,840	2
St. Louis Park	7,650	3	7,966	3	8,599	4	9,415	4	9,481	4	10,996	4	13,439	4
Corridor Total	$ 6,113	1	$ 6,373	1	$ 6,976	1	$ 7,677	1	$ 7,769	1	$ 8,955	1	$10,744	1
Northwest Minneapolis Corridor														
Brooklyn Center	$ 5,694	4	$ 5,840	5	$ 6,481	5	$ 7,150	5	$ 7,233	5	$ 8,292	5	$ 9,470	5
Brooklyn Park	5,374	6	5,843	4	6,629	4	7,377	4	7,566	4	9,007	4	10,746	3
Crystal	6,148	3	6,272	3	6,974	3	7,859	3	8,013	3	9,258	3	10,729	4
Minneapolis	5,470	5	5,689	6	6,196	6	6,791	6	6,893	6	7,838	6	9,425	6
New Hope	7,405	2	7,539	2	8,115	2	8,810	2	8,732	2	10,073	2	11,691	2
Robbinsdale	7,429	1	7,685	1	8,537	1	9,442	1	9,506	1	10,936	1	12,582	1
Corridor Total	$ 5,657	2	$ 5,880	2	$ 6,440	2	$ 7,081	2	$ 7,183	2	$ 8,222	2	$ 9,794	2
Minneapolis/St.Paul Corridor														
Minneapolis	$ 5,470	1	$ 5,689	1	$ 6,196	1	$ 6,791	1	$ 6,893	1	$ 7,838	1	$ 9,425	1
St.Paul	4,539	2	4,658	2	5,081	2	5,591	2	5,635	2	6,560	2	8,440	2
Corridor Total	$ 5,077	3	$ 5,253	3	$ 5,723	3	$ 6,283	3	$ 6,359	3	$ 7,297	3	$ 9,010	3
Northeast St.Paul Corridor														
Little Canada	$ 5,586	1	$ 6,313	1	$ 6,279	1	$ 6,551	1	$ 6,859	1	$ 7,714	1	$ 9,632	1
Maplewood	5,241	2	5,288	2	5,874	2	6,429	2	6,493	2	7,574	2	9,650	2
North St.Paul	4,391	4	4,503	4	5,051	4	5,606	3	5,715	3	5,855	3	8,833	3
St.Paul	4,539	3	4,658	3	5,081	3	5,591	4	5,635	4	6,560	4	8,440	4
Vadnais Heights	3,332	5	3,408	5	3,793	5	4,315	5	4,651	5	5,648	5	7,800	5
Corridor Total	$ 4,590	4	$ 4,715	4	$ 5,153	4	$ 5,665	4	$ 5,722	4	$ 6,669	4	$ 8,596	4
7 County Metro	$ 5,835		$ 6,091		$ 6,756		$ 7,434		$ 7,499		$ 8,712		$10,386	

Sources: Minnesota Department of Revenue, Assessed Valuation Data, Midwest Research Institute.

Assessor's Market Value Per Capita (Cont.)

COMMERCIAL DEVELOPMENT

	1973		1974		1975		1976		1977		1978		1979	
	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK
West/Southwest Minneapolis Corridor														
Golden Valley	$ 2,908	1	$ 2,967	1	$ 3,242	1	$ 3,373	1	$ 3,602	1	$ 4,267	1	$ 4,683	1
Hopkins	1,933	4	1,953	4	2,036	4	2,047	5	2,119	6	2,321	5	2,528	5
Minneapolis	2,135	2	2,199	2	2,112	3	2,065	4	2,137	5	2,188	6	2,411	6
Minnetonka	870	6	1,111	6	1,498	6	2,019	6	2,387	4	2,663	4	2,881	4
Plymouth	1,466	5	1,519	5	1,954	5	2,268	2	2,464	3	2,689	3	3,621	2
St. Louis Park	2,042	3	2,082	3	2,205	2	2,262	3	2,700	2	3,012	2	3,545	3
Corridor Total	$ 2,042	1	$ 2,111	1	$ 2,116	1	$ 2,146	1	$ 2,286	1	$ 2,418	1	$ 2,716	1
Northwest Minneapolis Corridor														
Brooklyn Center	$ 1,337	2	$ 1,377	2	$ 1,551	2	$ 1,753	2	$ 1,908	2	$ 2,148	2	$ 2,410	2
Brooklyn Park	683	5	691	5	701	5	754	4	787	4	796	5	836	5
Crystal	519	6	538	6	552	6	596	6	685	6	702	6	776	6
Minneapolis	2,135	1	2,199	1	2,112	1	2,065	1	2,137	1	2,188	1	2,411	1
New Hope	1,278	3	1,367	3	878	3	694	5	743	5	851	4	1,077	4
Robbinsdale	849	4	820	4	872	4	933	3	969	3	1,037	3	1,100	3
Corridor Total	$ 1,831	2	$ 1,882	2	$ 1,806	2	$ 1,781	3	$ 1,850	3	$ 1,908	3	$ 2,101	3
Minneapolis/St. Paul Corridor														
Minneapolis	$ 2,135	1	$ 2,199	1	$ 2,112	1	$ 2,065	1	$ 2,137	1	$ 2,188	1	$ 2,411	1
St. Paul	1,286	2	1,332	2	1,370	2	1,413	2	1,543	2	1,667	2	1,885	2
Corridor Total	$ 1,777	3	$ 1,832	3	$ 1,797	3	$ 1,789	2	$ 1,885	2	$ 1,968	2	$ 2,189	2
Northeast St. Paul Corridor														
Little Canada	$ 1,603	1	$ 1,380	1	$ 1,287	3	$ 1,607	2	$ 1,709	2	$ 1,926	2	$ 2,269	2
Maplewood	814	3	1,115	3	1,572	1	1,757	1	1,879	1	2,045	1	2,521	1
North St. Paul	516	5	517	5	590	5	648	5	675	5	719	5	818	5
St. Paul	1,286	2	1,332	2	1,370	2	1,413	3	1,543	3	1,667	3	1,885	3
Vadnais Heights	781	4	778	4	861	4	989	4	993	4	1,044	4	1,407	4
Corridor Total	$ 1,222	4	$ 1,280	4	$ 1,350	4	$ 1,412	4	$ 1,535	4	$ 1,661	4	$ 1,900	4
Seven-County Metro	$ 1,375		$ 1,430		$ 1,515		$ 1,569		$ 1,669		$ 1,773		$ 2,006	

Sources: Minnesota Department of Revenue, Assessed Valuation Data, Midwest Research Institute.

Assessor's Market Value Per Capita (Cont.)

COMBINED DEVELOPMENT

	1973		1974		1975		1976		1977		1978		1979	
	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK
West/Southwest Minneapolis Corridor														
Golden Valley	$ 13,581	1	$ 13,932	1	$ 15,381	1	$ 16,771	1	$ 16,983	1	$ 19,364	1	$ 22,105	1
Hopkins	11,046	2	11,195	2	11,773	3	12,661	3	12,555	5	13,933	5	15,723	5
Minneapolis	8,291	6	8,601	6	9,055	6	9,633	6	9,827	6	10,920	6	12,827	6
Minnetonka	9,222	5	9,631	5	11,017	5	12,463	5	12,926	4	15,390	3	18,413	3
Plymouth	9,375	4	10,189	4	11,831	2	13,346	2	13,603	2	16,030	2	19,796	2
St. Louis Park	10,352	3	10,768	3	11,556	4	12,472	4	13,051	3	15,115	4	18,164	4
Corridor Total	$ 8,872	1	$ 9,233	1	$ 9,897	1	$ 10,668	1	$ 10,935	1	$ 12,362	1	$ 14,603	1
Northwest Minneapolis Corridor														
Brooklyn Center	$ 7,317	4	$ 7,534	4	$ 8,420	4	$ 9,316	4	$ 9,617	4	$ 10,988	3	$ 12,534	4
Brooklyn Park	6,138	6	6,691	6	7,630	6	8,445	5	8,697	6	10,217	6	12,129	5
Crystal	6,878	5	7,030	5	7,786	5	8,378	6	9,017	5	10,310	5	11,909	6
Minneapolis	8,291	2	8,601	2	9,055	3	9,633	3	9,827	3	10,920	4	12,827	3
New Hope	8,922	1	9,163	1	9,965	1	10,780	1	10,847	1	12,561	1	14,921	1
Robbinsdale	8,279	3	8,507	3	9,410	2	10,375	2	10.475	2	11,973	2	13,682	2
Corridor Total	$ 8,046	2	$ 8,346	2	$ 8,902	2	$ 9,556	2	$ 9,754	2	$ 10,943	2	$ 12,821	2
Minneapolis/St. Paul Corridor														
Minneapolis	$ 8,291	1	$ 8,601	1	$ 9,055	1	$ 9,633	1	$ 9,827	1	$ 10,920	1	$ 12,827	1
St. Paul	6,522	2	6,704	2	7,250	2	7,793	2	7,961	2	9,058	2	11,276	2
Corridor Total	$ 7,555	3	$ 7,798	3	$ 8,290	3	$ 8,854	3	$ 9,035	3	$ 10,133	3	$ 12,174	3
Northeast St. Paul Corridor														
Little Canada	$ 7,233	2	$ 7,891	2	$ 7,747	2	$ 8,404	2	$ 8,851	2	$ 9,927	2	$ 12,225	2
Maplewood	9,115	1	9,529	1	11,404	1	12,266	1	12,552	1	13,981	1	17,180	1
North St. Paul	5,087	4	5,200	4	5,845	4	6,470	4	6,620	4	7,814	4	9,867	4
St. Paul	6,522	3	6,704	3	7,250	3	7,793	3	7,961	3	9,058	3	11,276	3
Vadnais Heights	4,156	5	4,226	5	4,699	5	5,348	5	5,726	5	6,872	5	9,391	5
Corridor Total	$ 6,656	4	$ 6,866	4	$ 7,516	4	$ 8,097	4	$ 8,256	4	$ 9,416	4	$ 11,721	4
Seven-County Metro	$ 7,806		$ 8,143		$ 8,962		$ 9,721		$ 9,910		$ 11,306		$ 13,329	

Sources: Minnesota Department of Revenue, Assessed Valuation Data, Midwest Research Institute.

Assessor's Market Value Per Capita (Cont.)

INDUSTRIAL DEVELOPMENT

	1973		1974		1975		1976		1977		1978		1979	
	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK	MARKET VALUE PER CAPITA	RANK
West/Southwest Minneapolis Corridor														
Golden Valley	$ 1,703	2	$ 1,734	1	$ 1,967	1	$ 2,051	1	$ 1,957	2	$ 1,731	2	$ 2,032	2
Hopkins	1,740	1	1,709	2	1,903	2	1,895	2	2,048	1	2,157	1	2,576	1
Minneapolis	686	3	713	5	747	5	777	5	797	5	894	5	991	6
Minnetonka	144	6	158	6	316	6	400	6	544	6	718	6	1,304	4
Plymouth	639	5	771	3	837	3	919	3	949	3	1,186	3	1,335	3
St. Louis Park	660	4	721	4	753	4	795	4	869	4	1,107	4	1,180	5
Corridor Total	$ 716	2	$ 749	2	$ 805	2	$ 845	2	$ 880	2	$ 988	2	$ 1,143	2
Northwest Minneapolis Corridor														
Brooklyn Center	$ 285	2	$ 317	2	$ 387	3	$ 413	3	$ 476	3	$ 548	3	$ 654	3
Brooklyn Park	81	5	156	5	300	4	313	4	351	4	414	4	547	4
Crystal	210	4	219	4	259	5	283	5	319	5	350	5	405	5
Minneapolis	686	1	713	1	747	2	777	2	797	2	894	2	991	2
New Hope	239	3	257	3	971	1	1,275	1	1,373	1	1,638	1	2,152	1
Robbinsdale	1	6	1	6	2	6	0	6	0	6	0	6	0	6
Corridor Total	$ 558	4	$ 584	4	$ 656	4	$ 694	4	$ 721	4	$ 813	4	$ 926	4
Minneapolis/St. Paul Corridor														
Minneapolis	$ 686	2	$ 713	2	$ 747	2	$ 777	2	$ 797	1	$ 894	1	$ 991	1
St. Paul	697	1	714	1	799	1	789	1	784	2	831	2	951	2
Corridor Total	$ 691	3	$ 713	3	$ 769	3	$ 782	3	$ 791	3	$ 867	3	$ 974	3
Northeast St. Paul Corridor														
Little Canada	$ 43	5	$ 197	3	$ 180	4	$ 246	3	$ 283	3	$ 288	3	$ 324	3
Maplewood	3,060	1	3,126	1	3,959	1	4,080	1	4,180	1	4,353	1	5,010	1
North St. Paul	180	3	180	4	203	3	215	4	230	4	240	4	216	4
St. Paul	697	2	714	2	799	2	789	2	784	2	831	2	951	2
Vadnais Heights	44	4	41	5	45	5	45	5	82	5	180	5	184	5
Corridor Total	$ 845	1	$ 871	1	$ 1,013	1	$ 1,020	1	$ 1,029	1	$ 1,087	1	$ 1,246	1
Seven-County Metro	$ 595		$ 622		$ 691		$ 718		$ 742		$ 821		$ 937	

Sources: Minnesota Department of Revenue, Assessed Valuation Data, Midwest Research Institute.

Comparison of Municipal Mill Rates by Corridor (1967-1980)

Corridor	1980 Millrate	1980 Rank	1979 Millrate	1979 Rank	1978 Millrate	1978 Rank	1977 Millrate	1977 Rank	1976 Millrate	1976 Rank	1975 Millrate	1975 Rank	1974 Millrate	1974 Rank	1973 Millrate	1973 Rank	1972 Millrate	1972 Rank	1971 Millrate	1971 Rank	1970 Millrate	1970 Rank	1969 Millrate	1969 Rank	1968 Millrate	1968 Rank	1967 Millrate	1967 Rank
West/Southwest Minneapolis Corridor																												
*Golden Valley	108.880	2	110.993	2	111.39	2	108.12	3	105.34	3	109.14	4	102.83	5	107.12	2	314.32	3	335.89	4	310.45	6	273.68	6	255.68	6	253.97	5
*Hopkins	97.989	5	105.863	3	108.95	4	109.06	2	105.92	2	115.02	3	107.62	2	102.01	3	313.81	4	336.04	3	362.50	3	342.96	3	296.57	3	278.51	4
*Minneapolis	111.817	1	125.362	1	130.09	1	129.89	1	124.00	1	136.02	1	121.27	1	111.04	1	339.20	1	353.27	2	331.47	5	302.90	5	269.38	5	232.67	6
*Minnetonka	100.471	4	105.839	4	109.47	3	107.65	4	104.95	4	115.04	2	106.37	3	101.67	5	324.89	2	371.57	1	419.33	1	389.45	1	331.52	1	318.21	1
*Plymouth	86.553	6	92.478	6	95.64	6	93.49	6	90.49	6	99.87	6	84.10	6	87.53	6	293.87	6	297.97	6	387.38	2	347.60	2	297.69	2	293.43	2
*St. Louis Park	103.108	3	104.194	5	103.42	5	102.87	5	99.82	5	107.23	5	104.10	4	102.00	4	309.17	5	335.73	5	335.73	4	304.45	4	288.93	4	279.63	3
Avg.	101.470	3	107.455	3	109.83	3	108.51	3	105.09	3	113.72	3	104.38	3	101.90	3	315.89	3	338.41	3	357.88	2	326.84	1	299.96	1	276.07	2
Northwest Minneapolis Corridor																												
*Brooklyn Center	96.487	3	103.008	3	107.40	2	104.94	3	103.85	2	116.01	2	104.56	2	100.16	2	305.38	2	379.40	1	425.89	2	388.35	1	352.40	1	349.79	1
*Brooklyn Park	89.740	6	97.691	6	105.30	4	105.84	2	103.49	3	111.39	3	102.57	3	97.16	3	296.15	3	342.27	4	426.11	1	371.01	2	323.63	2	321.65	2
*Crystal	94.489	4	99.871	4	102.29	6	99.83	6	97.02	6	100.72	5	94.19	5	84.60	5	271.61	5	330.29	5	346.49	3	303.12	3	273.81	4	275.13	4
*Minneapolis	111.817	1	125.362	1	130.09	1	129.89	1	124.00	1	136.02	1	121.27	1	111.04	1	339.20	1	353.27	2	331.47	6	302.90	5	269.38	5	232.67	6
*New Hope	91.238	5	97.788	5	102.32	5	100.40	5	97.54	5	100.00	6	92.81	6	83.08	6	268.65	6	323.27	6	332.38	5	288.43	6	258.28	6	259.05	5
*Robbinsdale	98.835	2	105.274	2	105.79	3	103.42	4	100.57	4	105.96	4	98.51	4	87.90	4	282.61	4	343.06	3	345.42	4	303.05	4	275.38	3	286.65	3
Avg.	97.101	4	104.833	4	108.87	4	107.39	4	104.41	4	111.68	4	102.32	4	93.99	4	293.93	4	345.26	2	367.99	1	326.14	2	292.15	2	287.49	1
Minneapolis/St. Paul Corridor																												
*Minneapolis	111.817	2	125.362	2	130.09	2	129.89	2	124.00	2	136.02	2	121.27	2	111.04	2	339.20	1	353.27	1	331.47	1	302.90	1	269.38	1	232.67	2
*St. Paul	115.081	1	129.778	1	131.03	1	133.92	1	126.72	1	146.54	1	127.33	1	111.32	1	329.49	2	348.20	2	304.80	2	286.30	2	262.90	2	256.36	1
Avg.	113.449	1	127.570	1	130.56	1	131.91	1	125.36	1	141.28	1	124.30	1	111.18	1	334.35	2	300.74	4	318.14	4	293.60	4	266.14	4	244.52	4
Northeast St. Paul Corridor																												
*Little Canada	108.736	2	118.698	3	119.71	3	115.10	5	112.59	5	116.82	5	105.07	5	97.07	5	300.68	5	330.86	5	322.93	4	287.53	4	247.99	5	247.64	5
*Maplewood	102.814	4	114.475	4	120.30	2	119.47	3	119.61	3	127.35	3	115.97	1	107.16	3	322.99	3	366.70	3	344.66	3	331.32	2	303.67	1	285.52	2
*North St. Paul	99.683	5	112.335	5	118.33	4	119.02	4	116.36	4	125.96	4	115.54	2	105.01	4	317.67	4	366.97	2	348.39	2	331.00	3	299.93	3	287.18	1
*St. Paul	115.081	1	129.778	1	131.03	1	133.92	1	126.72	1	146.54	1	127.33	4	111.32	2	329.49	2	348.20	4	304.80	5	286.30	5	262.90	4	256.36	4
*Vadnais Heights	105.637	3	126.747	2	113.88	5	132.06	2	125.10	2	140.68	2	135.15	3	128.51	1	437.19	1	470.23	1	428.38	1	392.10	1	303.16	2	281.68	3
Avg.	106.390	2	120.407	2	120.65	2	123.91	2	120.08	2	131.47	2	119.81	2	109.81	2	341.60	1	376.59	1	349.83	3	325.25	3	283.53	3	271.68	3

Source: Annual Survey, Citizens League of the Twin Cities
Midwest Research Institute

Community Land Use Profiles

F

I. WEST/SOUTHWEST CORRIDOR

Municipality	Population Projections				Employment Projections				Per Capita Income		% Change	1980 Mill Rates		1970 % of Working Population	% Developed
	1970	1980	1990	2000	1973	1980	1990	2000	1969	1977		Total	Rank*		
1. Golden Valley	24,246	24,000	23,500	23,000	22,400	27,000	30,000	32,000	$ 4,916	$9,983	103.1	108.880	2	57.0	
2. Hopkins	13,428	15,800	16,000	16,000	16,700	19,000	20,000	21,500	$ 4,671	$8,959	91.8	97.989	21	50.3	
3. Minneapolis	434,400	375,000	375,000	380,000	285,000	280,000	280,000	285,000	$ 3,485	$6,569	88.5	111.817	13	58.2	97

	Community Development Programs				Residential Units Per Acre (Multi-Fam.)			Overall Vacancy Rate (Apts.) %	Flexible Zoning	Assessed Value of Real & Personal Property - 1980 ($ Millions)	Public Endorsement	LRT	
	IRB	TIF	CDBG	OTHER	Low	Medium	High					Rating**	Reason
1.	X	X	X	X	1-4	5-12	13+	0.8 (4.2)	PUD	$ 176.4	yes	VI	Traffic from 2nd-ring suburbs affects streets
2.	X	X	X			12-44	84	2.7 (4.7)	PUD	89.2	no	VI	Built on trolley line; employment center
3.	X	X	X	X	0-15	15-50	51+	3.4 (6.9)	PUD	1,672.4	no	VI	Only way to create a change

Land Use Variables	Golden Valley	Hopkins	Minneapolis
Alternative LRT Alignment	None developed	Consider the existing C & NW RR a possibility City owns abutting property	Hiawatha corridor
Regional Retail Center	Community - Golden Valley Shopping Center	Community - Hopkins Mall	Downtown; commercial shopping nodes
Regional Employment Center	General Mills, Honeywell, Pako	Super Valu, Honeywell, Red Owl, Napco, SW Industrial Park	Downtown; University of Minnesota
Rapid Growth: Res./Comm./Ind.	Demand for office space in Theodore Wirth Park area and possibly in Valley Square	Some additional industrial in Southwest Ind. Park	Demand for Apartments
3 Largest Employers	Honeywell (3,515), General Mills (3,000) Pako (1,130)	Super Valu (1,000); Red Owl (1,000); White Motor (800)	Several
Development Attitudes	Favorable, retaining quality standards	Hold out for quality construction	Generally positive
Community Planning Commission/City Council	Cooperative, firm, but willing to deal - alot of PUDs	Hold a middle ground	Officials are cautious, depending upon neighborhoods
Development Agreements	One, plus potential for more in Valley Square area	2 - CBD North and S.W. Industrial District	Many - TIF, HRA, National Development Council
Vacant/Under-Utilized Land	C and NW, Highway 55	At Westbrook Way, north of Cedar Lake Road and S.W. Industrial Park	Railroads, I94, mostly redevelopment
Housing Projections (Households) 1980 1990 2000	7,600 8,400 8,500	6,900 7,100 7,100	164,000 171,500 174,000
Upzoning	Have open zoning category.	Only through multi-family construction	East Bank, CBD
Downzoning	Some downzoning to take place in Valley Square (retail to office)	Nothing substantial	Elliot Park, Calhoun, Isles, The Wedges, etc.

* 1 (high) to 93 (low)

** LRT Importance Rating: UI - unimportant; SI - somewhat important; I - important; VI - very important; EI - extremely important

I. WEST/SOUTHWEST CORRIDOR

Municipality	Population Projections 1970	1980	1990	2000	Employment Projections 1973	1980	1990	2000	Per Capita Income 1969	1977	% Change	1980 Mill Rates Total	Rank*	1970 % of Working Population	% Developed
4. Minnetonka	35,776	41,800	42,700	45,500	9,000	13,000	20,000	22,500	$ 4,342	$8,303	91.2	100.471	11	51.9	72.8
5. Plymouth	18,077	30,000	43,500	54,000	10,800	15,000	21,000	26,000	$ 3,987	$7,894	98.0	86.553	53	52.7	50+
6. St. Louis Park	48,883	46,000	42,800	42,000	30,600	31,500	32,000	33,000	$ 4,274	$7,705	80.3	103.108	6	59.1	97.6

	Community Development Programs IRB	TIF	CDBG	OTHER	Residential Units Per Acre (Multi-Fam.) Low	Medium	High	Overall Vacancy Rate (Apts.) %	Flexible Zoning	Assessed Value of Real & Personal Property - 1980 ($ Millions)	Public Endorsement	LRT Rating**	Reason
4.	X	X	X		1-4	5-11	12+	1.5 (7.5)	PURD	259.3	no	SI	Low-density development
5.	X		X		1-2	3-5 & 6-10	11-20	1.7 (4.5)	PUD	217.0	no	I	No real preference for LRT over other mode
6.	X	X	X		5	5-11	11-50	1.8 (4.9)	DDD/PUD	277.1	yes	EI	1394, revised interest in SW diagonal, trips to CBD

Land Use Variables	Minnetonka	Plymouth	St. Louis Park
Alternative LRT Alignment	None developed	None developed	Several developed in 1974 plus station site alternatives
Regional Retail Center	Ridgedale, 7-High Shopping Center	None - only small neighborhood centers	Shelard Park, Knollwood, Miracle Mile
Regional Employment Center	Opus II, Carlson Center, Cargill	494 and 55 industrial office park	100 & Excelsior, Shelard Park
Rapid Growth: Res./Comm./Ind.	Demand for office/retail space along 12, 7 and 101	Demand for office/warehouse and banks	Residential & commercial growth; demand for apartments and offices
3 Largest Employers	Cargill (1,600); Data 100 (1,500); Opportunity Workshop (440)	Litton (1,400); Carlson Companies (850); Control Data (740); Prudential (2,000 this fall)	Honeywell (2,000); Pickwick International (1,500); Methodist Hospital (1,400)
Development Attitudes	Community is unfavorable, actually trying to organize against development	Depends upon the developer, the project and land use	Favorable; good success because of zoning plan
Community Planning Commission/City Council	Favorable; within limits of guideplan and ordinance	Cooperative when in keeping with plans and standards	Location of development impacts on attitude
Development Agreements	2 or 3 - considering one for the Carlson Center	Nothing beyond IRBs	2 projects, Miracle Mile, Oak Park Village
Vacant/Under-Utilized Land	Along Highway 12 and RR through community	Along 12 and 55 - 40-50% of Plymouth has soil/grade problems	Along 12, 7 and Chicago & NW
Housing Projections (Households) 1980	12,100	19,800	17,900
1990	15,000	15,500	18,600
2000	16,100	19,000	18,700
Upzoning	Along 12	In Carlson Center	Vernon & 12, Excelsior & 100
Downzoning	1 - and still in court	SW quad of 9 & 494 - followed a proposal - Ind to SE (PUD)	Conversion only (Ind. to Diversified Development District)

* 1 (high) to 92 (low)

** LRT Importance Rating: UI - unimportant; SI - somewhat important; I - important; VI - very important; EI - extremely important

Community Land Use Profiles

II. MINNEAPOLIS/ST. PAUL CORRIDOR

Municipality	Population Projections 1970	1980	1990	2000	Employment Projections 1973	1980	1990	2000	Per Capita Income 1969	1977	% Change	1980 Mill Rates Total	Rank*	1970 % of Working Population	% Developed
1. Minneapolis	934,400	375,000	375,000	380,000	285,000	280,000	280,000	285,000	$3,485	$6,569	89.5	111.817	13	58.2	97
2. St. Paul	309,866	277,000	270,000	275,000	185,000	185,000	185,000	185,000	$3,399	$6,368	87.3	115.081	17	55.0	almost fully

	Community Development Programs IRB	TIF	CDBG	OTHER	Residential Units Per Acre (Multi-Fam.) Low	Medium	High	Overall Vacancy Rate (Apts.)%	Flexible Zoning	Assessed Value of Real & Personal Property - 1980 ($ Millions)	Public Endorsement	LRT Rating**	Reason
1.	X	X	X	X	0-15	15-50	51+	3.4 (6.9)	PUD	1,672.4	no	VI	Only way to create a change
2.	X	X	X	X	1-12	15-36	37+	2.0 (4.4)	PUD	1,929.8	no	VI	Potential to spur redevelopment

Land Use Variables	Minneapolis	St. Paul
Alternative LRT Alignment	Hiawatha corridor	Yes, downtown people mover and a preliminary LRT study
Regional Retail Center	Downtown; commercial shopping nodes	Downtown, Midway, community shopping centers
Regional Employment Center	Downtown; University of Minnesota	Downtown, Midway, University of Minnesota, Capitol area
Rapid Growth: Res./Comm./Ind.	Demand for Apartments	Demand for apartments, offices, retail
3 Largest Employers	Several	Several
Development Attitudes	Mixed, very favorable in the CBD	Careful - excellent citizen participation process
Community Planning Commission/City Council	Officials are cautious, depending upon neighborhoods	The neighborhoods have the responsibility
Development Agreements	Many - TIF, HRA, National Development Council	Many, always try to leverage public dollars
Vacant/Under-Utilized Land	I-94; mostly redevelopment, railroads	Some in University corridors mostly redevelopment
Housing Projections (Households) 1980 1990 2000	164,000 171,500 174,000	109,400 112,000 114,000
Upzoning	East Bank, CBD	Lower Town. The market has always underbuilt the permitted density
Downzoning	Elliot Park, Calhoun-Isles, The Wedge, etc.	Selby/Dale neighborhood

* 1 (high) to 92 (low)

** LRT Importance Rating: UI - unimportant; SI - somewhat important; I - important; VI - very important; EI - extremely important

Community Land Use Profiles

III. NORTHEAST ST. PAUL CORRIDOR

Municipality	Population Projections 1970	1980	1990	2000	Employment Projections 1973	1980	1990	2000	Per Capita Income 1969	1977	% Change	1980 Mill Rates Total	Rank*	1970 % of Working Population	% Developed
1. Little Canada	3,481	8,000	11,000	13,200	1,200	2,000	3,500	5,000	$3,543	$6,701	89.1	108.736	45	NA	70
2. Maplewood	25,223	28,000	34,000	38,500	12,500	17,000	20,000	23,000	$3,340	$6,197	85.5	102.814	31	54.2	60
3. North St.Paul	11,950	12,500	12,500	12,500	2,200	3,000	3,300	3,600	$3,033	$5,828	92.2	99.683	36	NA	90

	Community Development Programs IRB	TIF	CDBG	OTHER	Residential Units Per Acre (Multi-Fam.) Low	Medium	High	Overall Vacancy Rate (Apts.) %	Flexible Zoning	Assessed Value of Real & Personal Property 1980 ($ Millions)	Public Endorsement	LRT Rating**	Reason
1.	X				3-4	5-8	9-20	3.2 (5.3)	PUD	31.7	no	VI	Cheaper to more people by rail than by bus
2.			X	X	1-4	1-14	up to 23	1.5 (5.9)	PUD	173.7	no	I	Energy issues
3.	X	X		X	3-4	-	26	NA	PUD	36.9	no	SI	Energy issues; existing corridors can be connected easily

Land Use Variables	Little Canada	Maplewood	North St.Paul
Alternative LRT Alignment	None developed	None	None
Regional Retail Center	No - between Rosedale and Maplewood Mall	Maplewood Mall	None
Regional Employment Center	St. Jude Medical Building	3M	Target
Rapid Growth: Res./Comm./Ind.	Commercial growth; demand for office/warehouse because of I35E and 694	Demand for apartments, offices	No - pretty well developed, but a real demand for office/warehouse
3 Largest Employers	St. Jude Medical Building	3M (10,750); Berg - Torseth (175); Powers (155)	Target
Development Attitudes	Mixed, if a good development, they are favorable	No real interest by citizens	Somewhat hesitant
Community Planning Commission/City Council	Mixed, moratorium on apartments, Single Family - 1st Priority	Pro-growth	Favorable
Development Agreements	None	None	None
Vacant/Under-Utilized Land	Along 35E and 36 (residential)	Along 61 and near Maplewood Mall	Available in CBD area along railway; owners won't sell
Housing Projections (Households) 1980	3,200	8,600	3,800
1990	4,600	12,000	4,100
2000	5,500	14,000	4,300
Upzoning	Cantabury Condominiums (PUD)	Land use plan, modified zoning	Nothing substantial
Downzoning	Centerville Road - Ind. to residential	Changed multiple to be in accordance with the land use plan	Nothing substantial

* 1 (high) to 92 (low)

** LRT Importance Rating: UI = unimportant; SI = somewhat important; I = important; EI = extremely important

Community Land Use Profiles

III. NORTHEAST ST. PAUL CORRIDOR

Municipality	Population Projections 1970	1980	1990	2000	Employment Projections 1973	1980	1990	2000	Per Capita Income 1969	1977	% Change	1980 Mill Rates Total	Rank*	1970 % of Working Population	% Developed
4. St. Paul	309,866	277,000	270,000	275,000	185,000	185,000	185,000	185,000	$3,399	$6,368	87.3	115.081	17	55.0	Almost fully
5. Vadnais Heights	3,411	5,200	8,700	12,500	500	1,000	2,000	2,500	$3,066	$5,703	86.0	105.637	24	57.0	35

	Community Development Programs IRB	TIF	CDBG	OTHER	Residential Units Per Acre (Multi-Fam.) Low	Medium	High	Overall Vacancy Rate (Apts.)%	Flexible Zoning	Assessed Value of Real & Personal Property - 1980 ($ Millions)	Public Endorsement	LRT Rating**	Reason
4.	X	X	X	X	1-12	15-36	37+	2.0(4.4)	PUD	1,029.8	no	VI	Potential to spur redevelopment
5.	X				0-4	4-8	8+	3.3(6.0)	PUD	15.8	no	VI	Growth; proximity to St. Paul; development of industrial area

Land Use Variables	St. Paul	Vadnais Heights
Alternative LRT Alignment	Yes - downtown people mover and a preliminary LRT study	None
Regional Retail Center	Downtown, Midway, community shopping centers	No
Regional Employment Center	Downtown, Midway, University of Minnesota, Capitol area	Willow Lake Industrial Park area, H.B. Fuller (3,000 proposed) 35E and 694 and T.H. 61 - plus others
Rapid Growth: Res./Comm./Ind.	Demand for apartments, offices, retail	Demand for office/warehouse and multifamily
3 Largest Employers	Many	Buerkle Buick (102); Dynamic Air Inc. (65); New companies
Development Attitudes	Somewhat careful - excellent citizen process	Favorable
Community Planning Commission/City Council	The neighborhoods have the responsibility	Very cooperative
Development Agreements	Many, always try to leverage public dollars	None
Vacant/Under-Utilized Land	Some in University corridor--mostly redevelopment	Only 35 percent developed, so much is available
Housing Projections (Households) 1980 1990 2000	109,400 112,000 114,000	1,650 3,100 4,500
Upzoning	Lower Town; market has always underbuilt allowed density	Comp plan is changing--single family to multi-family
Downzoning	Selby/Dale neighborhood	Ind. to single family in Gwenhaven

* 1 (high) to 92 (low)

** LRT Importance Rating: UI - unimportant; SI - somewhat important; I - important; VI - very important; EI - extremely important

IV. NORTHWEST MINNEAPOLIS CORRIDOR

Municipality	Population Projections 1970	1980	1990	2000	Employment Projections 1973	1980	1990	2000	Per Capita Income 1969	1977	% Change	1980 Mill Rates Total	Rank*	1970 % of Working Population	% Developed
1. Brooklyn Center	35,173	34,000	33,500	33,500	9,800	13,000	15,000	16,000	$ 3,255	$6,130	88.3	96,487	32	51.4	90
2. Brooklyn Park	26,230	38,650	50,000	58,000	4,100	8,000	13,000	18,000	$ 3,328	$6,249	87.8	89.740	41	55.4	50
3. Crystal	30,925	28,000	26,000	25,500	5,500	7,000	7,500	8,000	$ 3,398	$6,511	91.6	94.489	46	54.4	94.3

	Community Development Programs IRB	TIF	CDBG	OTHER	Residential Units Per Acre (Multi-Fam.) Low	Medium	High	Overall Vacancy Rate (Apts.)%	Flexible Zoning	Assessed Value of Real & Personal Property - 1980 ($ Millions)	Public Endorsement	LRT Rating**	Reason
1.			X		1-5	6-8	9-21+	1.9 (6.2)	PUD	137.9	no	VI	Short on Transit; Relieve pressure on city streets
2.	X		X		1-3	4-13	14-18	3.0 (6.9)	PUD	169.1	no	EI	Large number of express ridership
3.			X		1-5	7-16	up to 16	1.4 (5.4)	PUD	97.0	no	I	Depends on terminals, etc.

Land Use Variables	Brooklyn Center	Brooklyn Park	Crystal
Alternative LRT Alignment	None developed	None developed	Site for a station once designated in 1964
Regional Retail Center	Brookdale	No	No (Bass Lake Road) - community only
Regional Employment Center	Developing Earle Brown Farm Industrial Park	Northland Industrial Park	No
Rapid Growth: Res./Comm./Ind.	Demand for offices & some industrial	Demand for offices & office/warehouse	Some demand for office/warehouse
3 Largest Employers	Medtronics (450); Arctic Metal Products (250); Dale Tile Co. (150)	Raygo, Inc. (240); County Seat (100); Thomas Engineering (80)	Target (275); Timesavers, Inc. (250); Modern Tool, Inc. (125)
Development Attitudes	Favorable	Growth oriented	Not very cooperative or favorable
Community Planning Commission/City Council	Cooperative	Sometimes too cooperative	Not very cooperative
Development Agreements	None	No one has asked	None
Vacant/Under-Utilized Land	Earle Brown Farm Industrial Park area, France & 100	Almost 50% of land is yet to be developed	Along railroads and near community shopping center
Housing Projections (Households) 1980	11,000	13,900	9,000
1990	12,400	20,500	9,100
2000	12,800	23,200	9,200
Upzoning	Only adjustments	Rezoning based upon the market	Nothing substantial
Downzoning	One - C2 to res.	Adjust zoning to land use	Valley Land Corp. PUD-290 Units to 148

* 1 (high) to 92 (low)

** LRT Importance Rating: UI - unimportant; SI - somewhat important; I - important; VI - very important; EI - extremely important.

Source: Midwest Research Institute

IV. NORTHWEST MINNEAPOLIS CORRIDOR (CONT.)

Municipality	Population Projections 1970	1980	1990	2000	Employment Projections 1973	1980	1990	2000	Per Capita Income 1969	1977	% Change	1980 Mill Rates Total	Rank*	1970 % of Working Population	% Developed
4. Minneapolis	434,400	375,000	375,000	380,000	285,000	280,000	280,000	285,000	$ 3,485	$ 6,569	88.5	111.817	13	58.2	97
5. New Hope	23,180	23,000	21,500	21,000	5,200	7,000	8,000	9,000	$ 3,320	$ 6,313	90.2	91.238	34	NA	98
6. Robbinsdale	16,845	15,100	14,500	14,500	4,400	4,700	5,000	6,000	$ 3,761	$ 7,160	90.4	98.835	23	(68)	fully

	Community Development Programs IRB	TIF	CDBG	OTHER	Residential Units Per Acre (Multi-Fam.) Low	Medium	High	Overall Vacancy Rate (Apts.)%	Flexible Zoning	Assessed Value of Real & Personal Property - 1980 ($ Millions)	Public Endorsement	LRT Rating**	Reason
4.	X	X	X	X	0-15	15-50	51+(145)	3.4 (6.9)	PUD	1,672.4	yes	VI	Only way to create a change
5.	X	X	X	X	4	6-10	11-15(20)	3.1 (7.1)	-	114.1	no	VI	Poor transit system; large number of people in multiple-unit dwellings
6.	X	X	X	X	up to 9	up to 12	13+ (53)	1.0 (2.9)	PUD	60.8	no	SI	No firm position; are amenable to looking at the options

Land Use Variables	Minneapolis	New Hope	Robbinsdale
Alternative LRT Alignment	Hiawatha corridor	None developed	None developed
Regional Retail Center	Downtown; community shopping centers	No	Robin Center & Wards
Regional Employment Center	Downtown; University of Minnesota	An industrial park	None
Rapid Growth: Res./Comm./Ind.	Demand for apartments	Only a few spaces left	Demand for apartments
3 Largest Employers	Several	United Hardware Distributing Co. (275); Ben Franklin Warehouse (248); Computer Metal Products (110)	North Memorial Medical Center (1,880)
Development Attitudes	Mixed, very favorable in the CBD	Particular	Cautious, conservative
Community Planning Commission/City Council	Cautious, depending on neighborhoods	Cooperative	Slightly favorable
Development Agreements	Many	None	Yes (HRA)
Vacant/Under-Utilized Land	194: mostly redevelopment, railroads	Along Soo Line RR	Very little available
Housing Projections (Households) 1980	164,000	7,500	5,700
1990	171,500	7,900	5,900
2000	174,000	8,000	6,000
Upzoning	Cedar Riverside	None	Commercial core area changes
Downzoning	The Wedge, Calhoun, Isles, etc.	Adjusted zoning to development	Peripheral areas to CDB (Project 4)

* 1 (high) to 92 (low)

** LRT Importance Rating: UI - unimportant; SI - somewhat important; I - important; VI - very important; EI - extremely important.

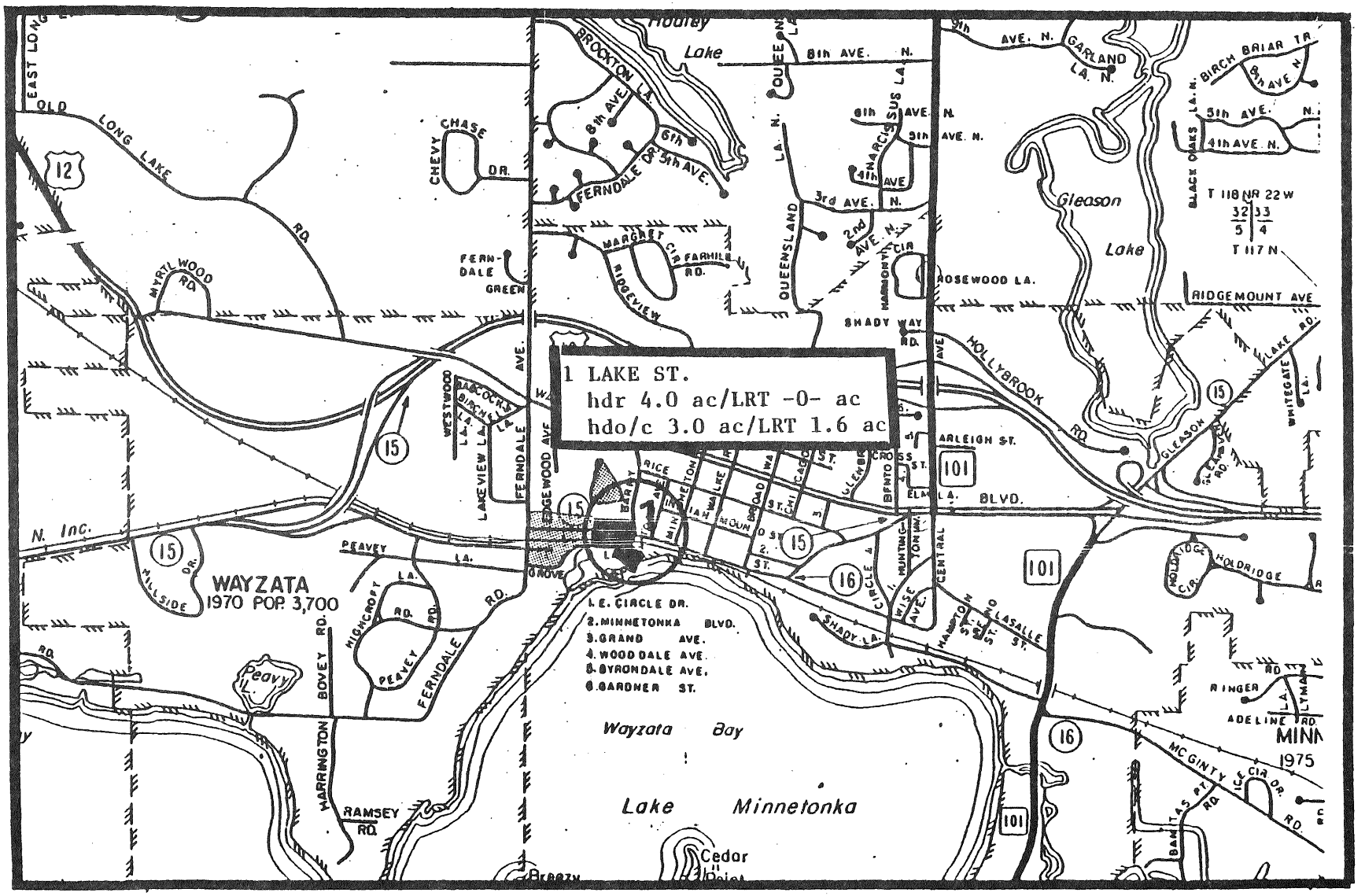
WEST LRT STUDY ALIGNMENT: STATION NODE LAND USE IMPACTS

	(1) Lake St & Barry Ave	(2) Lake St. & 101/ Central	(3) 101 & T.H. 12	(4) 1494 & T.H. 12	(5) Ridgedale Dr. & T.H. 12	(6) Co. 73 & T.H. 12	(7) Co. 18 & T.H. 12
City	Wayzata	Wayzata	Wayzata	Minnetonka	Minnetonka	Minnetonka	St. L.P./G. Valley
Station area major land use	comm./ofc.	comm./res.	comm./ofc.	comm./ofc./ind.	comm./res.	ofc./res.	ofc./res.
LRT land use impact	comm./ofc./res.	m.d. res.	m.d. res.	service	service	h.d. ofc./res.	ofc./ind.
LRT induced development	H	H	H	M	M	H	M
Major quadrant	NW	NE	SE	NW/NE	NW	NW/NE	SE
Developable Land							
Vacant land size (range)	M (1-5 acres)	M (11 acres)	H (20+ acres)	M (7 acres)	M (5 acres)	M (10 acres)	H (30+ acres)
Ease of assembly	L	H	H	M	H	L	H
Present zoning allows change	H	H	H	H	H	H	H
Zoning change potential	H	L (inst.-m.d.r.)	M (l.d.r./m.d.r.)	H (open space/ comm./ofc.)	H	M (l.d.r.-to h.d.r./ofc.)	H
Infrastructure	H	H	M	M	L	M	H
Preparation cost	M	H	M	M	L	M	H
Attractiveness of Site							
Activity node	H	H	H	H	H	H	H
Access	M	M	M	H	H	H	H
Parking potential	L	L	L	H	H	H	H
Compatible uses	H	H	H	H	H	H	H
Neighborhood attitude	M	M	M	M	M	H	H
New surrounding land develop.	H	M	H	H	H	H	M
Redevelopment potential	M (1-5 acres)	M (1-5 acres)	H (25 acres)	L (none)	M (6 acres)	H (40 acres)	H (18 acres)
Redevelopment potential	H	M	M	H	H	H	H
Local Land Use Policies	Wayzata			Minnetonka			G.V./St. L.P.
Zoning incentives	PUD			PURD			See Table
Community development tools	IRB, TIF, CDBG			IRB, TIF, CDBG			
Public/private packaging	limited			nothing beyond IRBs			
Growth stage	developing			developing			
Official growth attitude	positive			favorable; within limits of guide plan			
Importance of LRT	Somewhat Important			Somewhat Important			
*Regional policy impact	H	M	M	H	M	H	H
Potential land use impact	8-H 5-M 2-L	7-H 6-M 2-L	8-H 6-M 1-L	8-H 6-M 1-L	9-H 4-M 2-L	10-H 4-M 1-L	13-H 2-M 0-L
Rating/Comments	High	High	High	High	High	High	High
	The city is studying a redevelopment area across from terminus in the CBD. However, poor soil and limited parking space suggest terminus be NW of CBD between 12 & Wayzata Blvd.	Potential residential development of institutional retreat. Support of shopping center. Possible to continue alignment along Wayzata Blvd. to avoid narrow Lake St. r-o-w.	Potential demand to develop S.F. to multi-family south on 101. Also potential to route LRT so. along 101 to BNR r-o-w to CBD.	Provision of service to the Carlson Center commercial office, industrial and residential complex completed by early 1990's. S.F. on SW/SE quadrants.	Wetlands may preclude further development, however allowing additional parking.	Mixed soil conditions, small businesses and single family. Land use plan is for high density ofc., res. & some commercial. Adjacent to MDC. Prime PUD potential for high density.	Single ownership of large parcels could facilitate early development of industrially zoned land to office taking advantage intersection & surrounding office land use.

*Not included in total site rating

Legend: l.d.r. = low density residential
m.d.r. = medium density residential
h.d.r. = high density residential
l.d.c. = low density commercial

Source: Midwest Research Institute



West LRT Alignment

LRT-Induced Development 1990-2000*

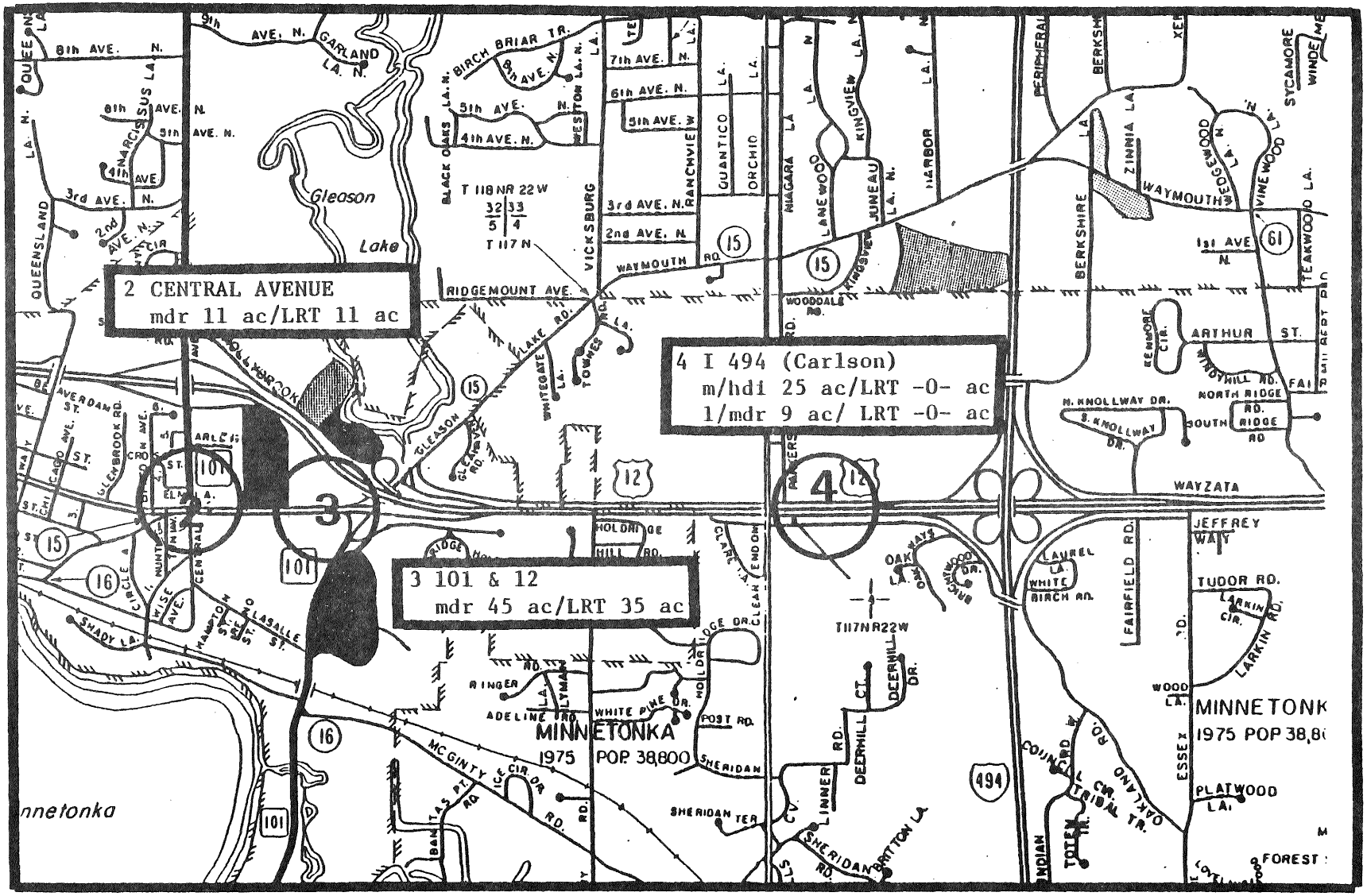
- LRT Induced
- Non LRT Induced
- * Shaded areas show only approximate locations and percentages

0 1000' 2000' 3000'

Scale in Feet

N

MRI



West LRT Alignment

LRT- Induced Development 1990-2000*

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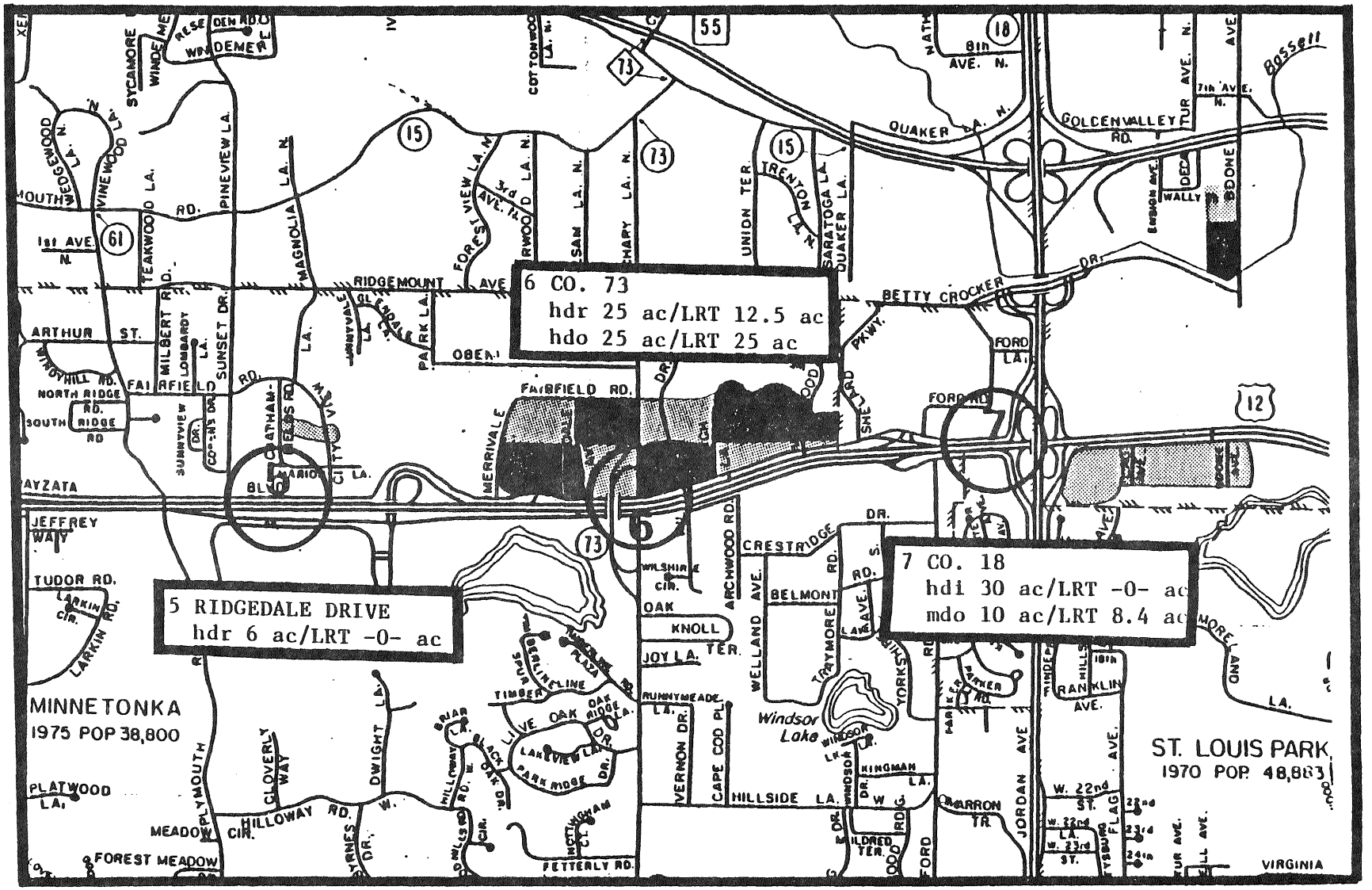
MRI



West LRT Alignment

LRT-Induced Development 1990-2000 *

- LRT Induced
- Non LRT Induced
- * Shaded areas show only approximate locations and percentages

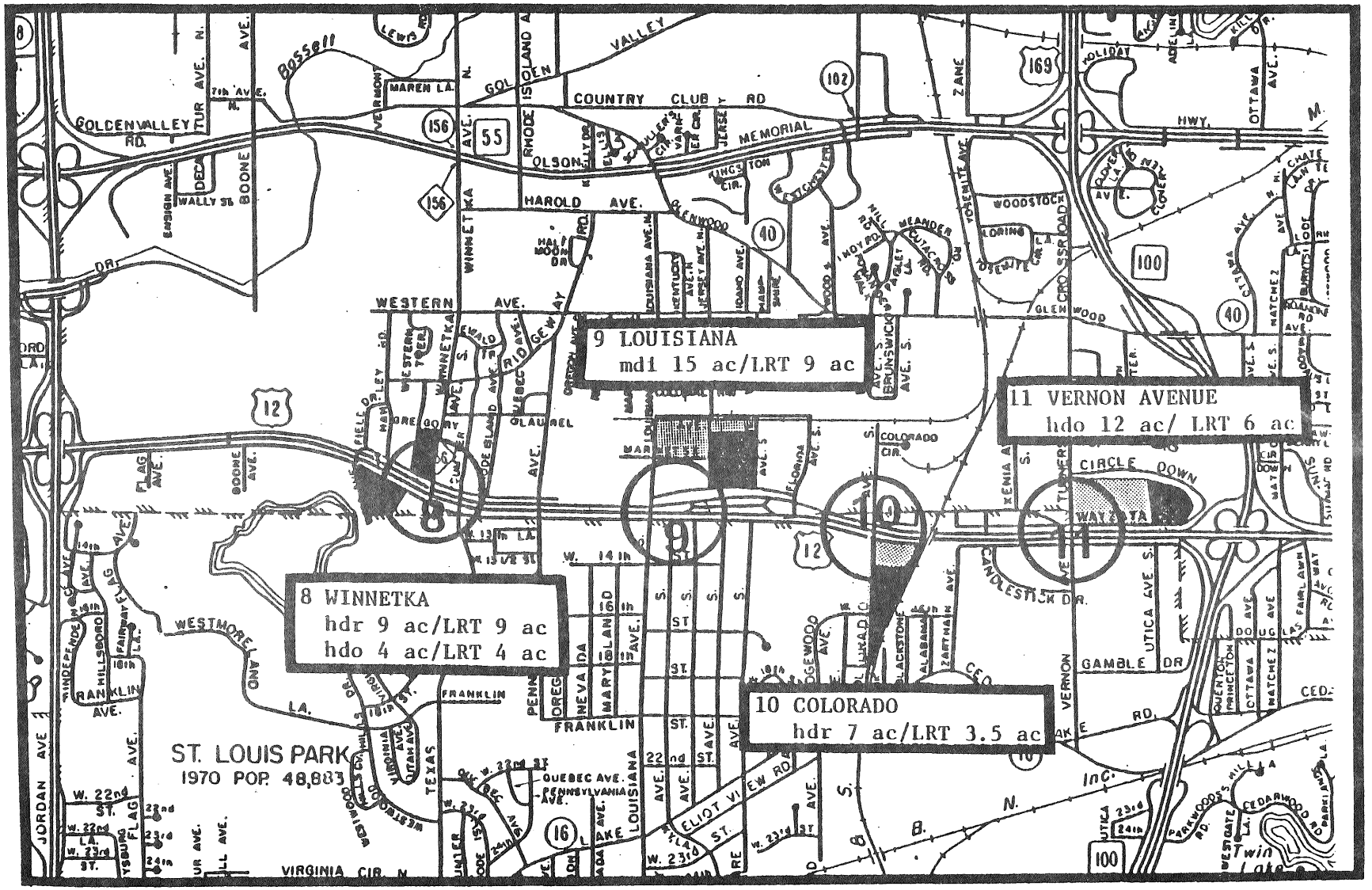
MRI

WEST LRT STUDY ALIGNMENT: STATION NODE LAND USE IMPACTS
(Continued)

	(8) Winnetka & T.H. 12	(9) Louisiana & T.H. 12	(10) Colorado & T.H. 12	(11) Vermont & T.H. 12	(12) So. Tyrol Trail & T.H. 12	(13) Penn Ave. & T.H. 12	(14) Wayzata Boulevard/ Parade Stadium
City	G. Valley/St. L.P.	G. Valley/St. L.P.	G. Valley/St. L.P.	G. Valley/St. L.P.	G. Valley/Hpln.	Hpln.	Hpln.
Station area major land use	res./ofc.	comm./res.	comm./res.	comm.	res.	res./ind.	ind.
LRT land use impact	h.d. res.	ofc.	h.d.r.	ofc.	service	l.d.r./m.d.r.	station
LRT induced development	H	H	H	M	L	H	L
Major quadrant	NE/SW	NW	SE	NE	SE	NW	NW
Developable Land							
Vacant land size	L (None)	M (1-6 acres)	L (None)	M (4 acres)	L (None)	H (10 acres)	L (101 acres)
Ease of assembly	L	M	L	H	M	M	H
Present zoning allows change	L	H	M	H	H	H	H
Zoning change potential	(l.d.r./h.d.r.)	H	H (m.d.r./h.d.r.)	H (comm. to ofc.)	H	H (res.)	H
Infrastructure	H	H	H	H	H	H	L
Preparation cost	H	H	H	H	M	H	H
Attractiveness of Site							
Activity node	H	H	H	H	M	M	L
Access	H	H	H	H	L	H	L
Parking potential	L	M	H	L	L	L	H
Compatible uses	H	H	H	H	L	H	H
Neighborhood attitude	M	H	H	H	H	M	H
New surrounding land develop.	M	H	H	H+	L	L	L
Redevelopment potential	H (15 acres)	M	H (6-15 acres)	H (8 acres)	L	H (10 acres)	L
Market demand	M	M	H	H	L	M	L
Local Land Use Policies	Golden Valley			St. Louis Park		Minneapolis	
Zoning incentives	PUD		DDD, PUD			PUD, High zoning densities	
Community development tools	IRB, TIF, CDBG, Other		IRB, TIF, CDBG			IRB, TIF, CDBG, Other	
Public/private packaging	1, potential in Valley Sq.		2, Miracle Mile, Oak Park Vlg.			Many	
Growth stage	Developed		Developed			Developed	
Official growth attitude	Favorable, Retaining Standards		Location impacts on attitude			Cautious, depends on neighborhood	
Importance of LRT	Very Important			Extremely Important		Very Important	
[A]Regional policy impact	H	H	H	H	L	L	H
Overall potential impact	7-H, 3-M, 5-L	10-H, 5-M, 2-L	10-H, 3-M, 2-L	12-H, 2-M, 1-L	1-H, 4-M, 8-L	6-H, 7-M, 2-L	5-H, 2-M, 8-L
Rating/Comments	Medium	High	High	High	Low	Medium	Low
	Potential change of single family residential to multifamily and ofc. uses on NE quadrant. Some commercial and ofc. on SW quadrant.	Area zoned industrial with commercial uses and some vacant land and wetlands. Potential for PUD-mixed development.	Mixed uses in SE quadrant in need of redevelopment with potential for high density residential and some ofc. uses.	Potential redevelopment of commercial uses in NE quadrant to high density office space.	Service provided to insurance complex and single family neighborhood.	Potential to develop a portion of an institutional site adjacent to Birch Pond to low density multiple family.	Station site and parking. Projected long-term use of rail r-o-w.

[A]Not included in total site rating

Legend: l.d.r. = low density residential
m.d.r. = medium density residential
h.d.r. = high density residential
l.d.c. = low density commercial



West LRT Alignment

LRT- Induced Development 1990-2000 *

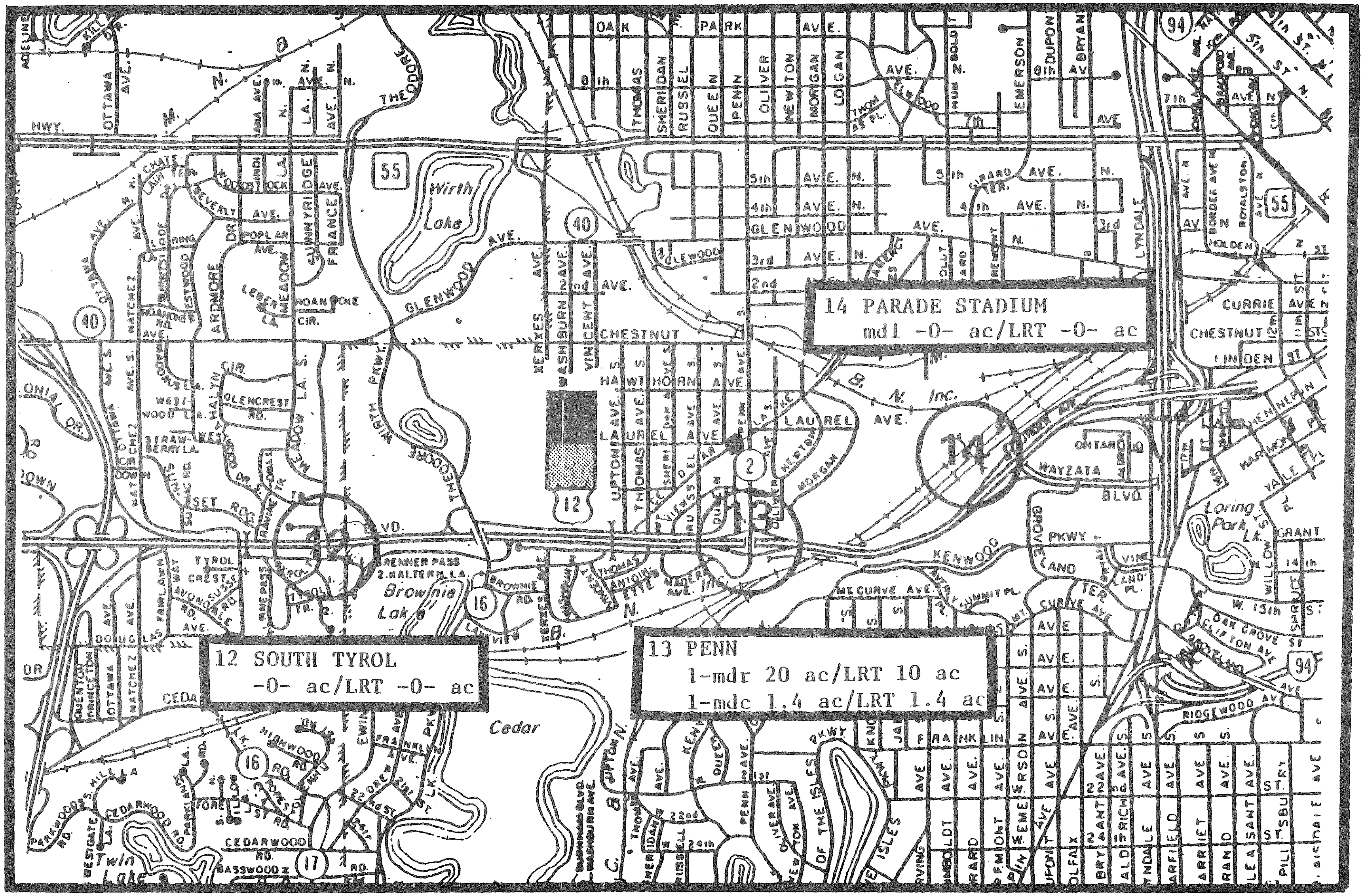
- LRT Induced
- Non LRT Induced
- * Shaded areas show only approximate locations and percentages

0 1000' 2000' 3000'

Scale in Feet

N

MRI



West LRT Alignment

LRT- Induced Development 1990-2000*

■ LRT Induced

▒ Non LRT Induced

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0 1000' 2000' 3000'

Scale in Feet

N

MRI

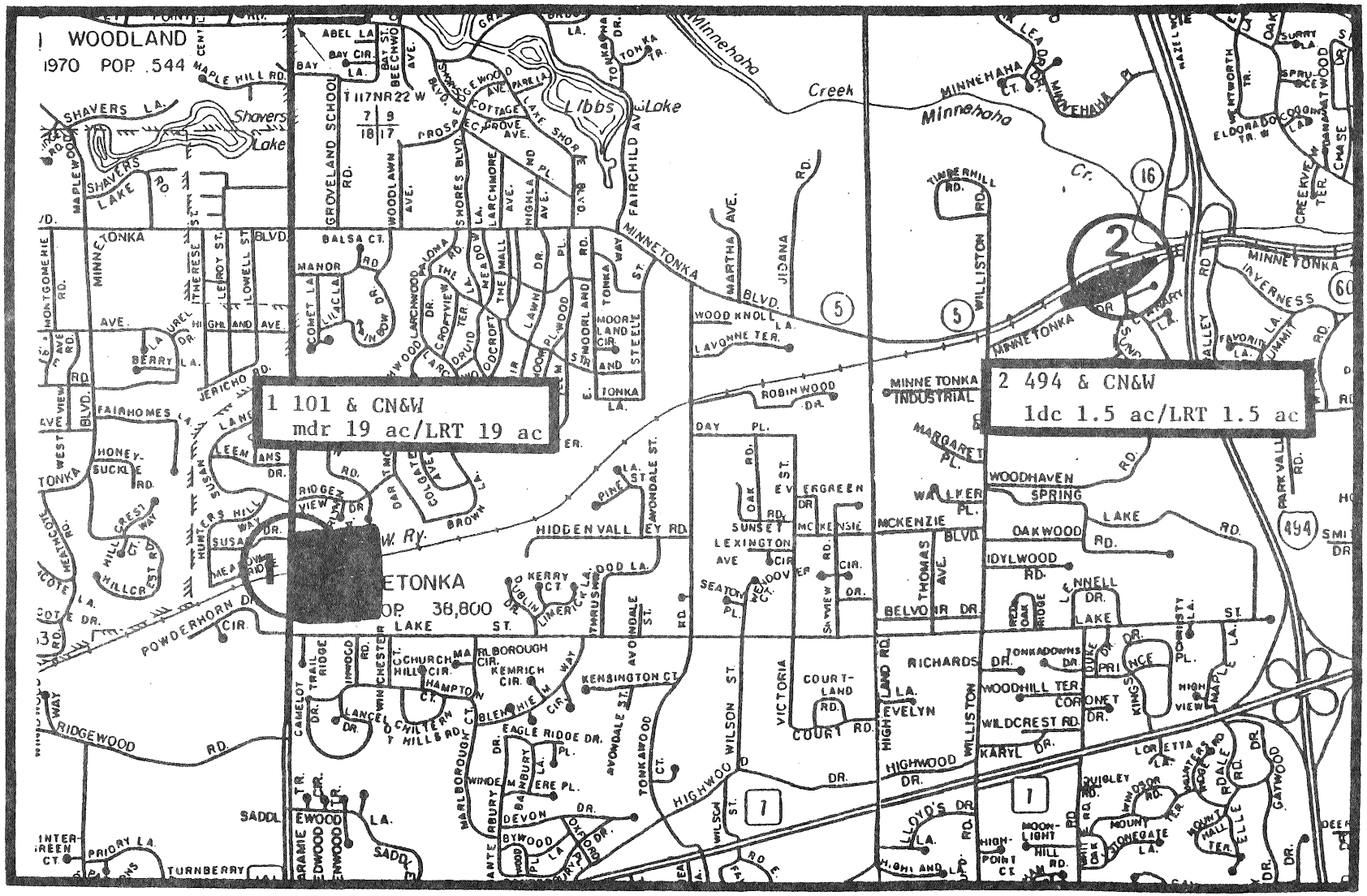
SOUTHWEST LRT STUDY ALIGNMENT: STATION NODE LAND USE IMPACTS

	(1) T.H. 101 & CN&W	(2) I494 & CN&W	(3) Plymouth Rd & CN&W	(4) 17th & CN&W	(5) 12th & CN&W	(6) 6th (Excel.) & CN&W	(7) Blake Rd & CN&W
City	Minnetonka	Minnetonka	Minnetonka	Hopkins	Hopkins	Hopkins	Hopkins
Station area major land use	l.d.r. residential	m.d. ofc/res. station site only	m.d.r. station site only	res./comm. comm. redevelopment	res./inst. residential	comm. res. redevelopment	res./comm. residential
LRT land use impact	M	M	M	M	L	M	M
LRT induced development	NE/SE	NW	NW/NE	NW	SW	NE	NE
Developable Land							
Vacant land size	H (19 acres)	M (2 acres)	L (none)	M (3 acres)	L (none)	M (.3 acres)	M (3 acres)
Ease of assembly	H	H	L	L	L	M	H
Present zoning allows change	H	M	M	M	M	M	M
Zoning change potential	H (l.d.r. to m.d.r.)	M (l.d.c.)	M (inst.-m.d.r.)	M (redevelopment)	M (athletic field)	M (l.d.r.-h.d.r.)	M (ind.-h.d.r.)
Infrastructure	L	M	M	H	M	H	M
Preparation cost	L	M	M	H	M	H	H
Attractiveness of Site							
Activity node	M	M	M	H	L	M	H
Access	M	H	M	M	L	H	M
Parking potential	H	H	M	L	L	L	L
Compatible uses	M	M	M	M	M	H	H
Neighborhood attitude	M	H	M	M	M	H	H
New surrounding land develop.	H	M	M	L	L	L	M
Redevelopment potential	L (none)	L (none)	H (8 acres)	M (2 acres)	L (none)	M (2.5 acres)	M (3 acres)
Market demand	H	M	M	M	L	M	M
Local Land Use Policies	Minnetonka			Hopkins			
Zoning incentives	PURD (Residential)			PUD			
Community development tools	IRB, TIF, CDBG			IRB, TIF, CDBG			
Public/private packaging	Nothing beyond IRBs			2 - CBD North & SW industrial district			
Growth stage	Developing			Developed			
Official growth attitude	Favorable; within limits of guide plan			Positive, hold out for quality construction			
Importance of LRT	Somewhat Important			Very Important			
*Regional policy impact	M	M	L	M	L	H	M
Overall potential impact	7-H 5-M 3-L	4-H 10-M 1-L	2-H 11-M 2-L	3-H 9-M 3-L	0-H 6-M 9-L	5-H 8-M 2-L	5-H 9-M 1-L
Rating/Comments	Medium	Medium	Medium	Medium	Low	Medium	Medium
	Terminus in single family neighborhood, wetlands, school.	Station site .4 mile from city hall, l.d.r., light commercial and office/ warehouse uses.	Brenell school to become high density residential, neighborhood commercial redevelopment potential.	S.F. neighborhood with some commercial and m.d.r. redevelopment. Station location would be more appropriate in Country Village Shopping Ctr., across Hwy. 7.	Adjacent to high school athletic field and single family; potential parking, circulation problem.	Good foot traffic access from present and potential high density residential development.	Industrial site (NE) has potential for conversion to high density residential. Commercial/ industrial uses also very near.

*Not included in total site rating

Legend: l.d.r. = low density residential
m.d.r. = medium density residential
h.d.r. = high density residential
l.d.c. = low density commercial

Source: Midwest Research Institute



Southwest LRT Alignment

LRT-Induced Development 1990-2000*

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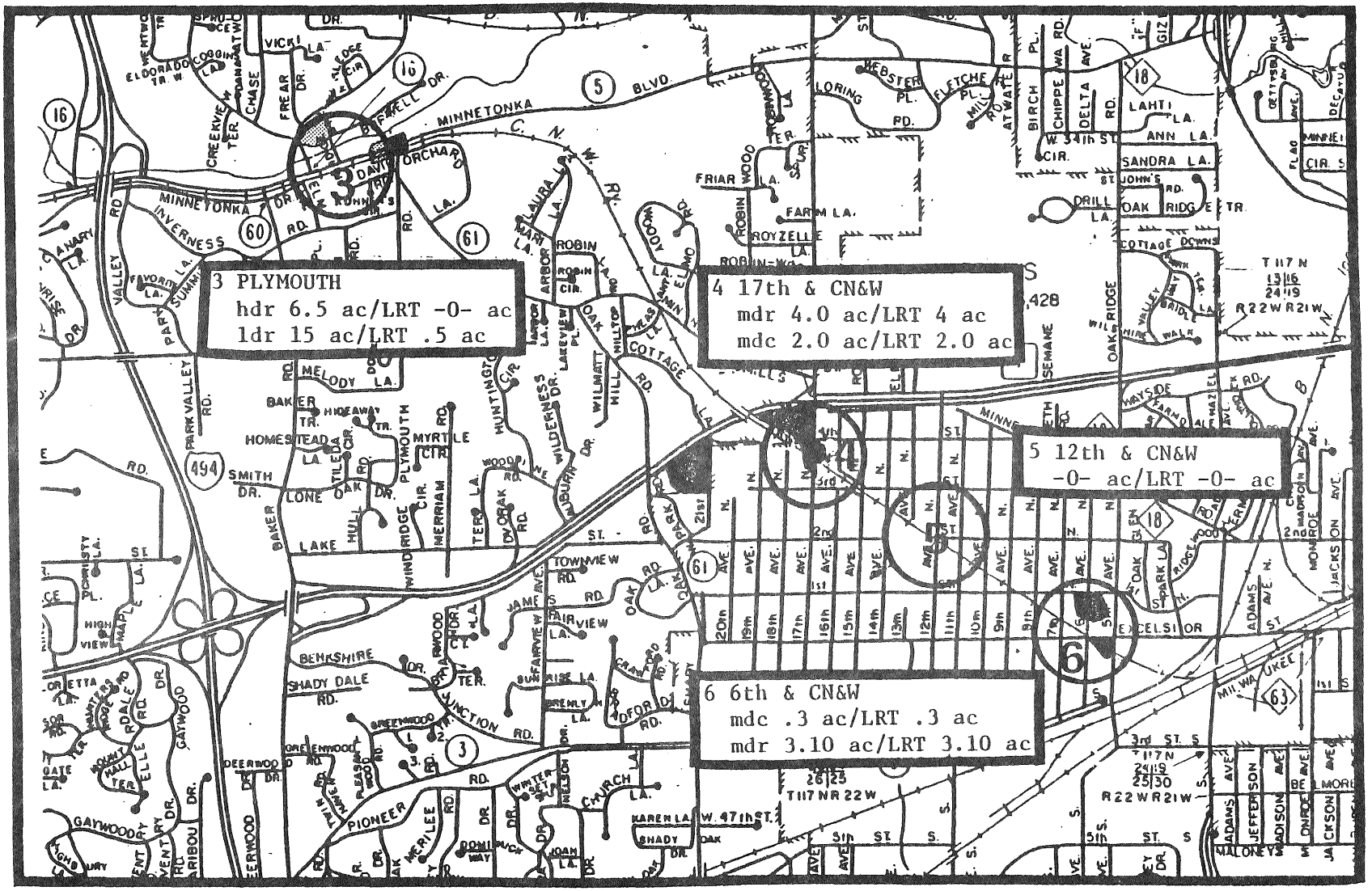
- Non LRT Induced
- * Shaded areas show only approximate locations and percentages

0 1000' 2000' 3000'

Scale in Feet

N

MRI



Southwest LRT Alignment

LRT- Induced Development 1990-2000*

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0 1000' 2000' 3000'

Scale in Feet

N

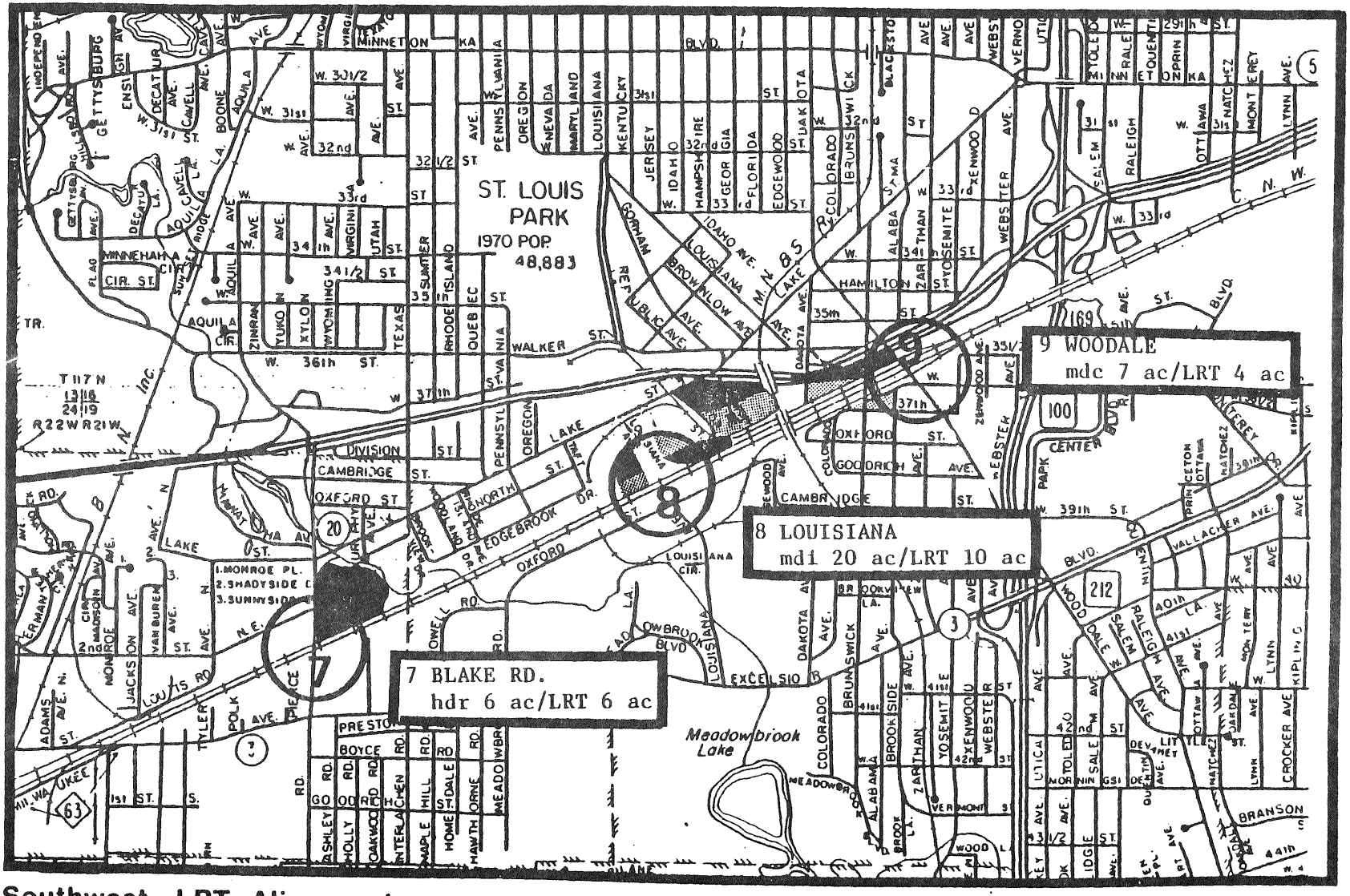
MRI

SOUTHWEST LRT STUDY ALIGNMENT: STATION NODE LAND USE IMPACTS
(Continued)

	(8) Louisiana & CN&W	(9) Woodale & CN&W	(10) Bass Lake & CN&W	(11) Lake St. & CN&W	(12) 28th St. & CN&W	(13) 25th & CN&W	(14) 21st & CN&W	(15) Parade & CN&W
City	St. Louis Park	St. Louis Park	St. Louis Park	Minneapolis	Minneapolis	Minneapolis	Minneapolis	Minneapolis
Station area major land use	ind./inst.	ind./res.	res./ofc.	res./ofc.	res.	res.	res.	ind.
LRT land use impact	m.d. industrial	m.d. commercial	m.d. residential	m.d. residential	m.d. residential	m.d. residential	L-m.d. res.	station/parking
LRT induced development	H	H	H	H	H	H	H	H
Major quadrant	NE	NW	SW	NW	SW	NW	NW	NW
Developable Land								
Vacant land size	H (10 acres)	H (.2 acres)	H (20+ acres)	H (2+ acres)	H (7 acres)	H (7 acres)	H (r.r.)	H (10+ acres)
Ease of assembly	H	M	H	M	H	M	M	H
Present zoning allows change	H	M	H	M	H	H	H	H
Zoning change potential	H	M (ind. to comm./ ofc.)	M (open space/ m.d.r.)	M (comm./ind.- m.d.r.)	M (l.d.r./m.d.r.)	M (l.d.r./m.d.r.)	M (l.d.r./m.d.r.)	H
Infrastructure	M	H	M	H	M	L	M	L
Preparation cost	H	H	L	H	M	L	M	L
Attractiveness of Site								
Activity of node	M	H	H	H	L	L	L	L
Access	M	H	H	H	M	L	L	L
Parking potential	L	L	M	L	L	L	L	H
Compatible uses	L	L	M	H	H	M	M	L
Neighborhood attitude	H	H	H	H	M	M	M	H
New surrounding land develop.	L	L	M	H	H	L	L	L
Redevelopment potential	M (10 acres)	M (3 acres)	H (10 acres)	M (10 acres)	L (none)	L (none)	M (2 acres)	L (none)
Market demand	L	L	H	H	H	L	L	L
Local Land Use Policies	St. Louis Park			Minneapolis				
Zoning incentives	DOD, PUD			PUD, zoning densities				
Community development tools	IRB, TIF, CDBG			IRB, TIF, CDBG, other				
Public/private packaging	2 - Miracle Mile, Oak Park Village			many examples				
Growth stage	developed			developed				
Official growth attitude	location impacts on attitude			cautious, depending on neighborhood				
Importance of LRT	Extremely Important			Very Important				
*Regional policy impact	H	H	H	H	H	L	L	H
Potential land use impact	7-H 4-M 4-L	6-H 5-M 4-L	9-H 5-M 1-L	8-H 6-M 1-L	7-H 5-M 3-L	3-H 3-M 8-L	1-H 8-M 6-L	6-H 1-M 8-L
Rating/Comments	High	Medium	High	High	Medium	Low	Medium	Medium
	Potential for longer range redevelopment of site; perhaps a change in use. Close to hospital.	Industrial area with some commercial. Small section of city land. Redevelopment would greatly improve the area.	Potential to develop railroad r-o-w if abandoned along Bass Lake. Commercial/ industrial redevelopment potential along Hwy. 7 is also possible.	Land use plan suggests medium density residential development of strip bordering railroad r-o-w.	Potential for med. density residential development of strip bordering railroad r-o-w.	Marshy area will determine level and extent of residential development feasible near r-o-w.	Potential for redevelopment of older housing to low density multiple housing.	Station site and large parking area. Long term use of rail r-o-w projected.

*Not included in total site rating

Legend: l.d.r. = low density residential
m.d.r. = medium density residential
h.d.r. = high density residential
l.d.c. = low density commercial

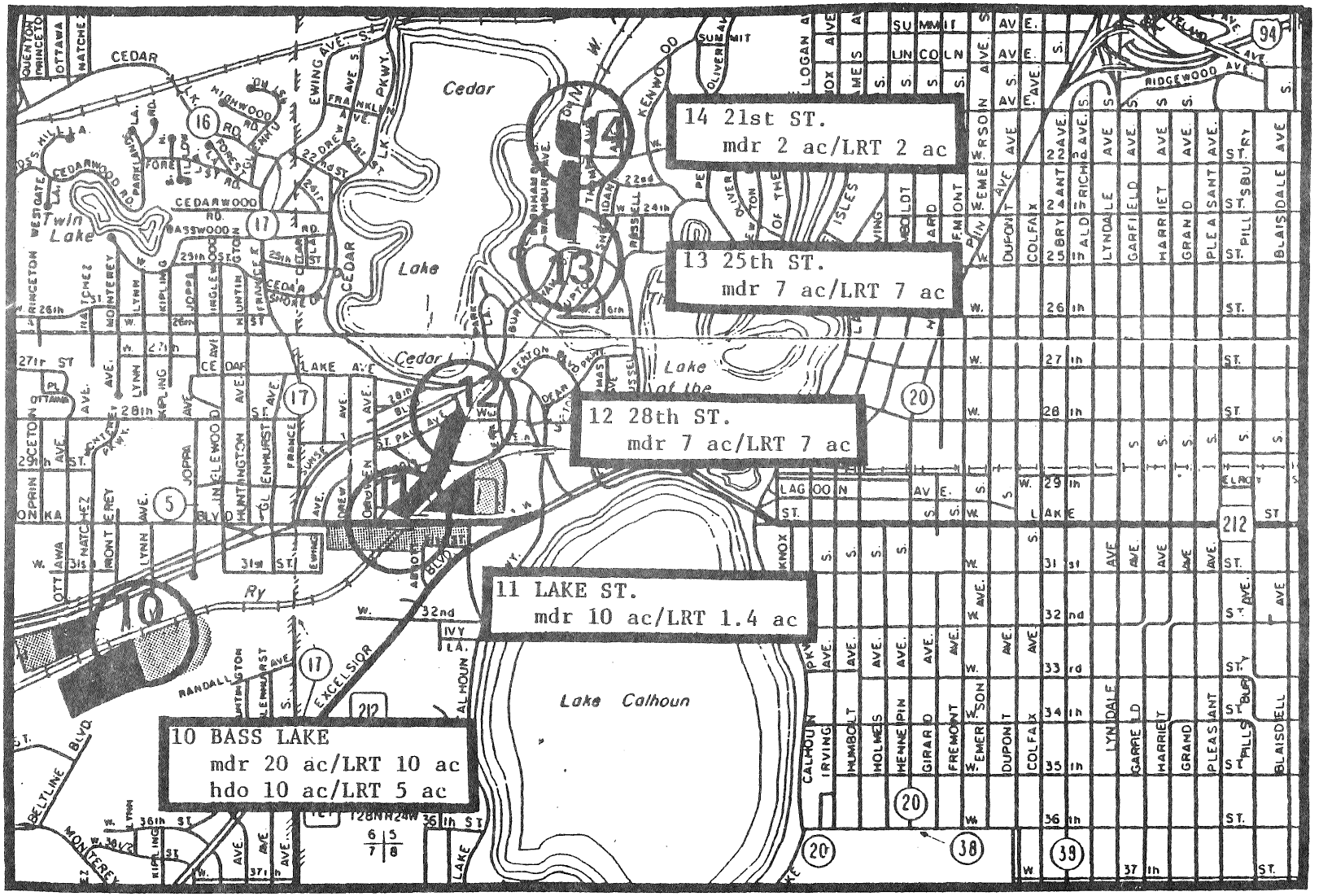


Southwest LRT Alignment

LRT- Induced Development 1990-2000 *

- LRT Induced
- Non LRT Induced
- * Shaded areas show only approximate locations and percentages

MRI



Southwest LRT Alignment

LRT-Induced Development 1990-2000*

LRT Induced

Non LRT Induced

* Shaded areas show only approximate locations and percentages

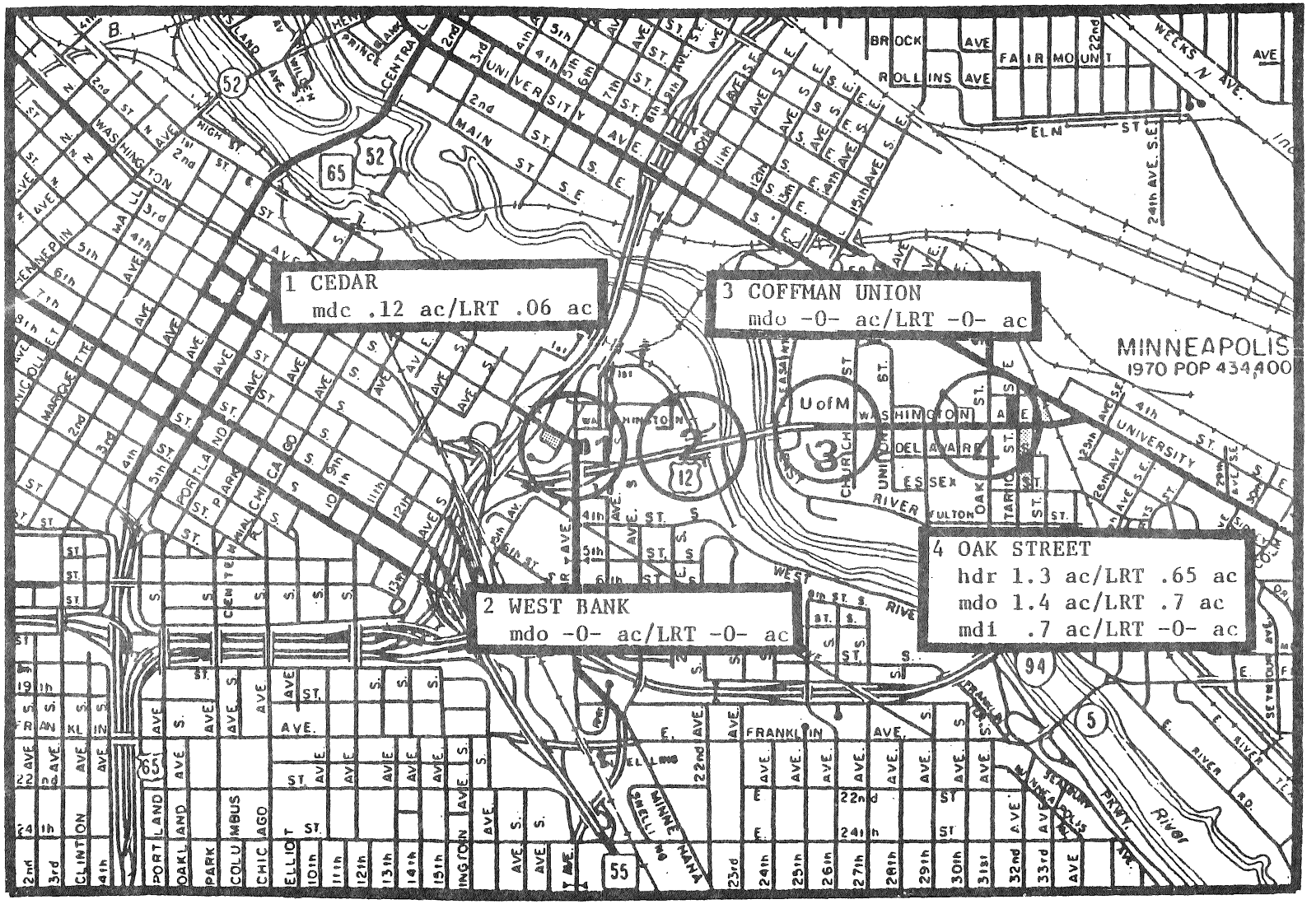
UNIVERSITY AVENUE LRT STUDY ALIGNEMNT: STATION NODE LAND USE IMPACTS

	(1) Cedar Ave. & Washington Ave.	(2) West Bank & Washington Ave.	(3) Coffman Union & Washington Ave.	(4) Oak St. & Washington Ave.	(5) Malcolm & University Ave.	(6) Raymond St. & University Ave.	(7) Cleveland & (Amtrak) & University Ave.	(8) Fairview & University Ave.
City	Minneapolis	Minneapolis	Minneapolis	Minneapolis	Minneapolis	St. Paul	St. Paul	St. Paul
Station Area Major Land Uses	m.d.o.&c.	m.-h.d.o.(U of M)	service only	l.&m.d.o./c.&r.	m.d.o./&l.-l.d.r.	m.d.o./c./r./l.	m.d.l./c.	m.d.o.c./l.d.r.
LRT Land Use Impact	commercial	service only		comm./res.	res./comm.	res./comm.	commercial	comm./service
LRT Induced Development	L	L	L	L	M	L	M	M
Major Quadrant	NW/NE	NE/SE	SW/SE	NW/NE/SE	NE/SW	NE	NE	NE
Developable Land								
Vacant Land Size	L (.12 acres)	L (none)	L (none)	M (2+ acres)	L (none)	L (1.8 acres)	L (none)	L (none)
Ease of Assembly	L	M	M	M	L	M	L	L
Present Zoning Allows Change	M	M	M	L	M	L	M	M
Zoning Land Use Change Potential	M	L	L	M (h.d.r.-m.d.o.)	M	M (m.d.l.-m.d.r.)	M	M
Infrastructure	M	M	M	M	M	M	M	M
Preparation Cost	M	M	M	M	M	M	M	M
Attractiveness of Site								
Activity of Node	M	M	M	M	M	M	M	M
Access	M	L	M	M	M	M	M	M
Parking Potential	M	L	L	M	L	L	M	L
Compatible Uses	M	M	M	M	M	M	M	M
Neighborhood Attitude	M	M	M	M	L	M	M	M
New Surrounding Land Development	M	M	L	M	M	L	M	M
Redevelopment Potential	M (.12 acres)	L	L	M (3.4 acres)	M (2 acres)	L (.6 acres)	L (1.2 acres)	M (1.8 acres)
Market Demand	M	M	L	M	L	L	M	L
Local Land Use Policies	Minneapolis				St. Paul			
Zoning Incentives	PUD, High zoning densities				PUD, Cluster development, high zoning densities			
Community Development Tools	IRB, TIF, CDBG, Other				IRB, TIF, CDBG, Other			
Public/Private Packaging	Many				Many; always try to leverage public dollars			
Growth Stage	Developed				Developed			
Official Growth Attitude	Cautious, depends on the neighborhood				Somewhat careful; neighborhoods have the responsibility			
Importance of LRT	Very Important				Very Important			
*Regional Policy Impact	M	H	H	H	H	H	H	L
Overall Potential Impact	6-H 6-M 3-L	1-H 8-M 6-L	2-H 6-M 7-L	6-H 8-M 1-L	4-H 6-M 5-L	1-H 7-M 7-L	4-H 8-M 3-L	6-H 5-M 4-L
Rating/Comments	Medium	Low	Low	Medium	Medium	Medium	Medium	Medium
	UDAG redevelopment to take place in the 1980's. Moderate in fill to occur in the 1990's--office and commercial uses.	Possible classroom/office expansion on the West Bank of the U. of M.	Very limited potential for office/classroom expansion on the East Bank of the U. of M.	Some change from S.F. to m.d. residential, redevelopment of older industrial and commercial facilities.	Moderate change from S.F. to m.d. residential and m.d. ofc. and commercial uses.	Primarily rehabilitation to occur with possible development of vacant land NE of the intersection.	Potential redevelopment of underutilized commercial/industrial land.	Minor redevelopment of low to med. density commercial.

* Not included in total site rating

Legend:
- l.d.r. = low density residential
- m.d.r. = medium density residential
- h.d.r. = high density residential
- l.d.c. = low density commercial
- m.d.c. = medium density commercial
- h.d.c. = high density commercial
- l.d.o. = low density office
- m.d.o. = medium density office
- h.d.o. = high density office
- l.d.i. = low density industrial
- m.d.i. = medium density industrial
- h.d.i. = high density industrial

Source: Midwest Research Institute



University LRT Alignment

LRT- Induced Development 1990-2000*

- LRT Induced
- Non LRT Induced
- * Shaded areas show only approximate locations and percentages

0 1000' 2000' 3000'

Scale in Feet

N

MRI

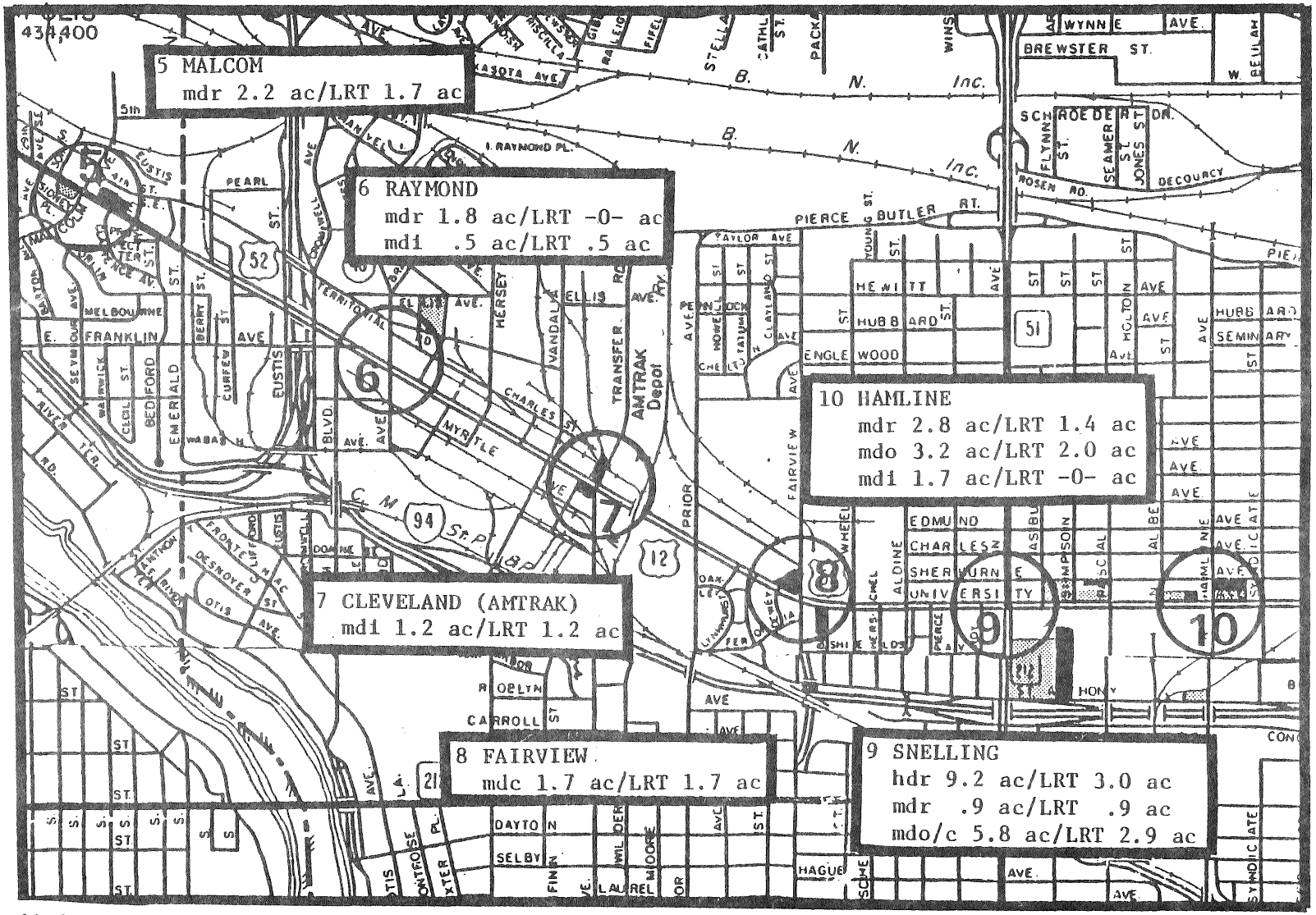
UNIVERSITY AVENUE LRT STUDY ALIGNMENT: STATION NODE LAND USE IMPACTS
(Continued)

	(9) Snelling & University Ave.	(10) Hamline & University Ave.	(11) Lexington Pkwy & University Ave.	(12) Victoria St. & University Ave.	(13) Dale St. & University Ave.	(14) Western Ave. & University Ave.	(15) Rice St. & University Ave.	(16) Central Ave. & Wabasha St.	(17) Columbus & Wabasha St.
City	St. Paul	St. Paul	St. Paul	St. Paul	St. Paul	St. Paul	St. Paul	St. Paul	St. Paul
Station Area Major Land Uses	m.d.c.&o./l.& m.d.r.	m.d.c.&o./l.& h.d.r.	l.&m.d.c./o./r.	l.d.c.&r.	l.&m.d.c./o./r.	l.&m.d.c./o.r.	h.m.d.c./o./r.	m.d.o.	m.d.o.
LRT Land Use Impact	comm./ofc./res.	comm./ofc.	commercial	commercial	commercial	commercial	ofc/service	service	service
LRT Induced Development	M	M	M	L	M	L	L	L	L
Major Quadrant	NE/SE	NW/NE	SW	SE	NW/NE	SW	SE	none	none
Developable Land									
Vacant Land Size	L (none)	L (1.7 acres)	L (none)	L (none)	L (none)	L (none)	L (none)	L (none)	L (none)
Ease of Assembly	M	L	L	L	L	L	L	L	L
Present Zoning Allows Change	H	H	H	M	M	M	M	M	M
Zoning Land Use Change Potential	H	H	H	M	M	M	M	L	L
Infrastructure	H	H	H	H	H	H	H	H	H
Preparation Cost	H	H	H	H	H	H	H	H	H
Attractiveness of Site									
Activity of Node	H	H	H	H	H	H	H	H	H
Access	H	H	H	H	H	H	H	H	H
Parking Potential	H	H	H	L	H	L	L	L	L
Compatible Uses	H	H	H	M	H	M	M	M	M
Neighborhood Attitude	H	H	M	M	M	M	M	M	M
New Surrounding Land Development	M	H	L	L	H	L	L	L	L
Redevelopment Potential	H (15 acres)	H (7.7 acres)	M (5.3 acres)	L (1.4 acres)	M (1.9 acres)	L	L	L	L
Market Demand	H	H	H	L	H	L	M	L	L
Local Land Use Policies	St. Paul								
Zoning Incentives	PUD, Cluster development, high zoning densities								
Community Development Tools	IRB, TIF, CDBG, Other								
Public/Private Packaging	Many; always try to leverage public dollars								
Growth Stage	Developed								
Official Growth Attitude	Somewhat careful; neighborhoods have the responsibility								
Importance of LRT	Very Important								
*Regional Policy Impact	H	H	H	H	H	H	H	H	H
Overall Potential Impact	11-H 3-M 1-L	9-H 4-M 2-L	8-H 4-M 3-L	3-H 5-M 7-L	5-H 8-M 2-L	3-H 5-M 7-L	3-H 6-M 6-L	3-H 4-M 8-L	1-H 6-M 8-L
Rating/Comments	High	High	High	Low	Medium	Low	Medium	Low	Low
	High activity center; Midway major retail cluster. Potential m.d. commercial redevelopment & m.d.-h.d. residential redevelopment.	Part of the Midway major retail cluster. Redevelopment of commercial land along university.	Easterly border of Midway major retail cluster. Redevelopment of underutilized commercial land.	Very moderate redevelopment of commercial land uses. Possible change of S.F. to commercial.	Neighborhood level commercial cluster. Some redevelopment of commercial land use.	Very moderate redevelopment. Some rehabilitation.	Redevelopment on Rice and Univ. to ofc/service. Ofc. use N. of the Capitol. Under review of the CAAB.	No development or redevelopment opportunities available. Part of the Capitol Area Architectural Board jurisdiction.	No opportunities available. Part of the CAAB planning/zoning jurisdiction. (See also NE alignment.)

* Not included in total site rating

Legend:
- l.d.r. = low density residential
- m.d.r. = medium density residential
- h.d.r. = high density residential
- l.d.c. = low density commercial
- m.d.c. = medium density commercial
- h.d.c. = high density commercial
- l.d.o. = low density office
- m.d.o. = medium density office
- h.d.o. = high density office
- l.d.i. = low density industrial
- m.d.i. = medium density industrial
- h.d.i. = high density industrial

Source: Midwest Research Institute



University LRT Alignment

LRT- Induced Development 1990-2000*

- LRT Induced
- Non LRT Induced

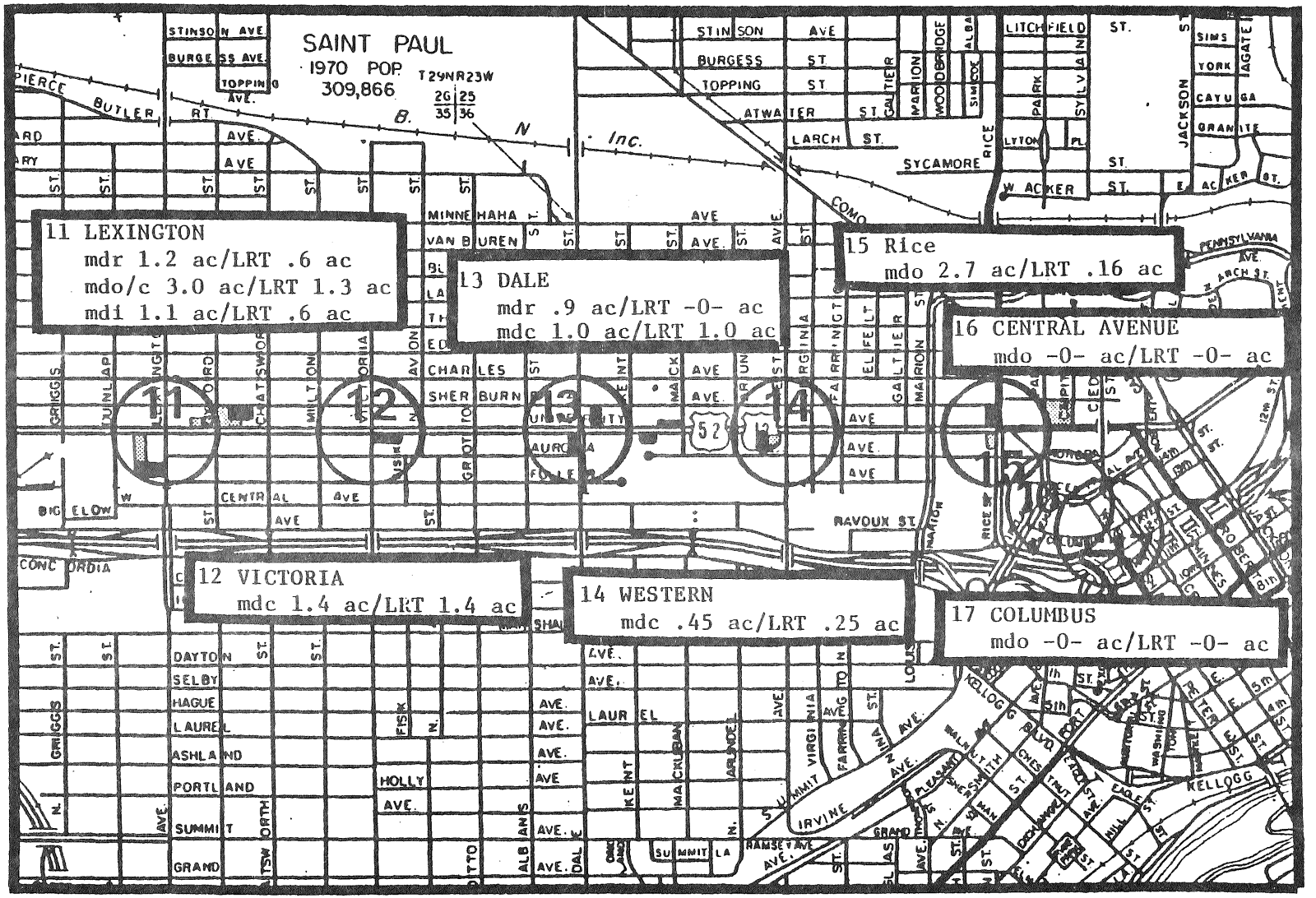
* Shaded areas show only approximate locations and percentages

0 1000' 2000' 3000'

Scale in Feet

N

MRI



University LRT Alignment

LRT- Induced Development 1990-2000*

LRT Induced

Non LRT Induced

* Shaded areas show only approximate locations and percentages

0 1000' 2000' 3000'

Scale in Feet

N

MRI

NORTHEAST LRT STUDY ALIGNMENT: STATION NODE LAND USE IMPACTS

	(1) Co. Rd. D & White Bear Ave.	(2) Beam Ave. & White Bear Ave	(3) B & N & Beam Avenue	(4) Hazelwood & Co. Rd. C	(5) Cope & BN (T.H. 36)	(6) Frost & BN Railroad	(7) Larpenteur & BN Railroad
City	Maplewood	Maplewood	Maplewood	Maplewood	Maplewood	Maplewood	Maplewood/St. Paul
Station Area Major Land Uses	m.d.o./m.d.r. comm./res.	m.d.o./c. commercial	l.d.o./c. commercial	l.d.r. residential	m.d.c. commercial	m.d.c./o./r. comm./res.	m.d.r. residential
LRT Land Use Impact	M	M	M	M	L	M	L
LRT Induced Development	NE	SW	NW/SW	SW	NW	SW	NE
Major Quadrant							
Developable Land							
Vacant Land Size	H (10.9 acres)	M (3.8 acres)	H (97 acres)	M (7 acres)	H (10 acres)	H (20 acres)	M (4 acres)
Ease of Assembly	H	H	H	H	H	H	H
Present Zoning Allows Change	H	H	H	H	H	H	H
Zoning Land Use Change Potential	H	H	H	H	H	H	H
Infrastructure	H	H	M	L	L	M	M
Preparation Cost	H	H	L	M	M	H	H
Attractiveness of Site							
Activity of Node	H	H	M	L	H	M	L
Access	M	H	H	M	M	H	L
Parking Potential	H	H	H	L	M	H	L
Compatible Uses	H	H	H	L	M	H	L
Neighborhood Attitude	M	M	H	M	M	M	M
New Surrounding Land Development	H	H	H	L	M	M	L
Redevelopment Potential	L	L	L	L	L	L	L
Market Demand	M	M	M	L	L	M	L
Local Land Use Policies	Maplewood				St. Paul		
Zoning Incentives	PUD				PUD, Cluster development, high zoning densities		
Community Development Tools	Industrial Revenue Notes				IRB, TIF, CDBG, Other		
Public/Private Packaging	Limited				Many; always try to leverage public dollars		
Growth Stage	Developing				Developed		
Official Growth Attitude	Pro-growth				Somewhat careful; neighborhoods have the responsibility.		
Importance of LRT	Important				Very Important		
*Regional Policy Impact	H	H	H	L	M	L	L
Overall Potential Impact	10-H 4-M 1-L	10-H 4-M 1-L	9-H 3-M 2-L	3-H 5-M 7-L	5-H 6-M 4-L	7-H 7-M 1-L	3-H 4-M 8-L
Rating/Comments	High	High	High	Low	Medium	High	Low
	Development of residentially zoned land southeasterly of White Bear Ave. Difficult intersection, stop preferred at Lydia Ave.	Potential development of service commercial uses along Beam Ave. already having utilities	Some infrastructure in place near Maplewood Mall. Very large single owner parcels of land available.	S.F. and T.H. development westerly of Hazelwood.	A new intersection is to be constructed at the R.R. crossing providing acres from T.H.36 to Cope Ave.	Potential to develop a 20-acre site on SW quadrant owned by a railroad.	Moderate development of low to med. density res. abutting R.R. on NE quadrant.

* Not included in total site rating

Legend:
- l.d.r. = low density residential
- m.d.r. = medium density residential
- h.d.r. = high density residential
- l.d.c. = low density commercial
- m.d.c. = medium density commercial
- h.d.c. = high density commercial
- l.d.o. = low density office
- m.d.o. = medium density office
- h.d.o. = high density office
- l.d.i. = low density industrial
- m.d.i. = medium density industrial
- h.d.i. = high density industrial

Source: Midwest Research Institute

NORTHEAST LRT STUDY ALIGNMENT: STATION NODE LAND USE IMPACTS
(Continued)

	(8) Arlington BN Railroad	(9) Maryland & BN Railroad	(10) Earl & East 7th	(11) Arcade & BN Railroad	(12) Payne & Collins (Tedesco)	(13) University & Jackson St. (St. Paul Ramsey Hospital)	(14) Columbus & Cedar St.
City	St. Paul	St. Paul	St. Paul	St. Paul	St. Paul	St. Paul	St. Paul
Station Area Major Land Uses	l.d.r.	m.d.c./o./r.	m.d.c/h.d.i.	h.d.i.	m.d.r.	ofc/hospital	Capitol
LRT Land Use Impact	none	comm./res.	commercial	residential	residential	service	service
LRT Induced Development	L	H	H	L	L	L	L
Major Quadrant	SE	SE	SE	SW/SE	NW	SW/NW	SE
Developable Land							
Vacant Land Size	L	M (5 acres)	L	L	L (1.4 acres)	M (3.7 acres)	L
Ease of Assembly	L	H	L	L	M	H	L
Present Zoning Allows Change	L	H	H	M	H	M	L
Zoning Land Use Change Potential	L	H	H	M	H	M	L
Infrastructure	M	H	H	M	M	H	M
Preparation Cost	L	H	M	M	L	M	M
Attractiveness of Site							
Activity of Node	L	H	M	H	M	M	M
Access	L	H	M	L	M	M	H
Parking Potential	L	H	L	L	L	M	L
Compatible Uses	L	H	M	M	M	M	M
Neighborhood Attitude	L	H	M	M	M	M	M
New Surrounding Land Development	L	H	L	L	M	L	L
Redevelopment Potential	L	M (5 acres)	H (2.3 acres)	L	M	L	L
Market Demand	L	M	L	L	M	L	L
Local Land Use Policies	St. Paul						
Zoning Incentives	PUD, Cluster Development, high zoning densities						
Community Development Tools	IRB, TIF, CDBG, Other						
Public/Private Packaging	Many; always try to leverage public dollars						
Growth Stage	Developed						
Official Growth Attitude	Somewhat careful; neighborhoods have the responsibility						
Importance of LRT	Very Important						
*Regional Policy Impact	L	M	L	H	L	H	M
Overall Potential Impact	0-H 1-M 14-L	12-H 3-M 0-L	5-H 5-M 5-L	1-H 6-M 8-L	2-H 9-M 4-L	2-H 9-M 4-L	1-H 5-M 9-L
Rating/Comments	Low	High	Medium	Low	Medium	Medium	Low
	An undesirable location for a stop. Traffic through this S.F. district would disrupt the neighborhood and could easily be deferred to Maryland or Larpenteur stops.	Phalen center is underdeveloped. Additional med. density housing and commercial development could occur.	Redevelopment of small commercial businesses on the edge of a large employment center.	Primarily service provided to major industries.	Development of residential land on NW quadrant.	Service to the hospital. Some mdr and mdo development under jurisdiction of the CAAB.	Service to the Capitol complex. Under the planning/zoning review of the Capitol area architectural board. (See also University alignment.)

* Not included in total site rating

Legend:
- l.d.r. = low density residential
- m.d.r. = medium density residential
- h.d.r. = high density residential
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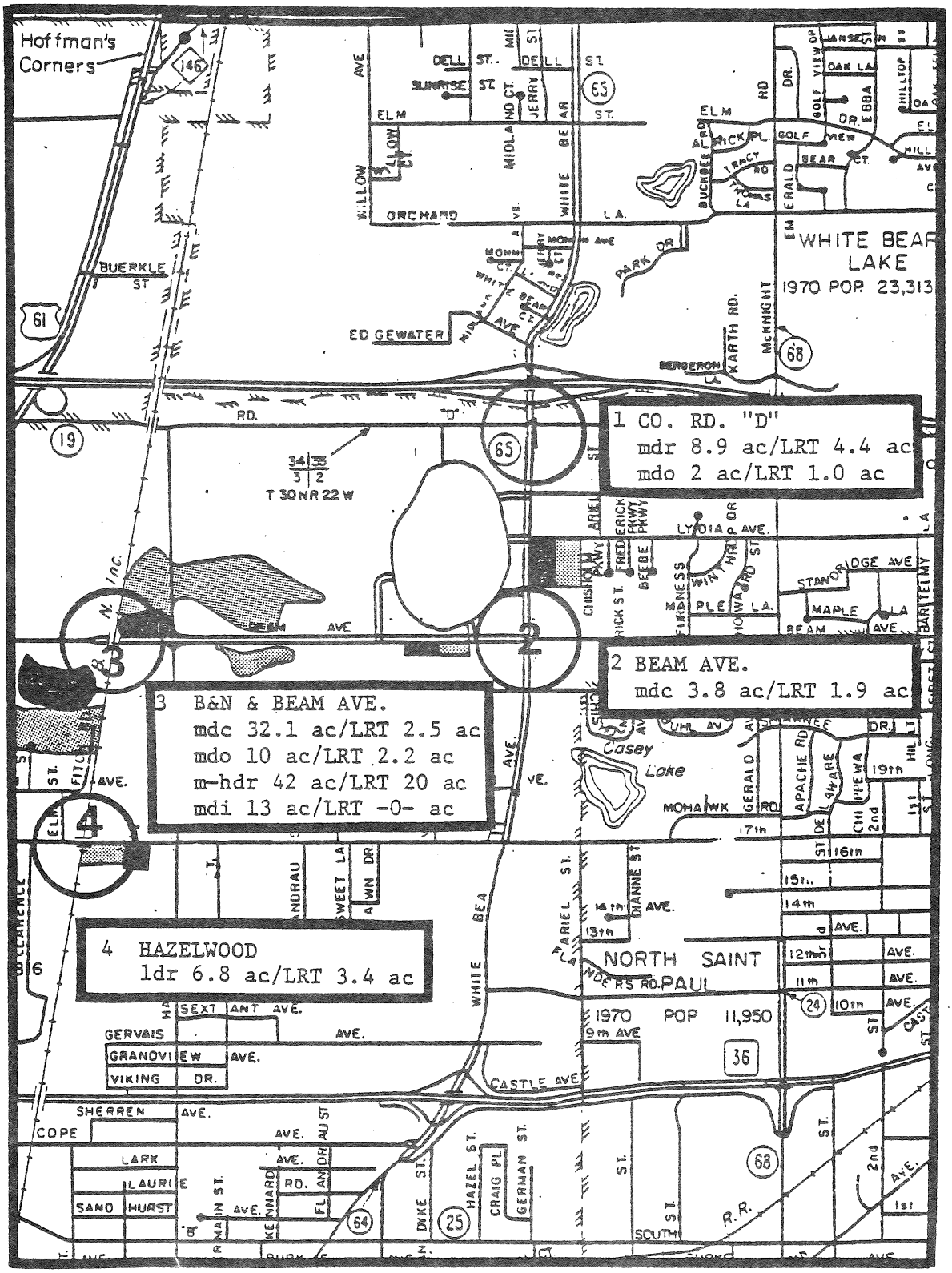
- l.d.i. = low density industrial
- m.d.i. = medium density industrial
- h.d.i. = high density industrial

Source: Midwest Research Institute



Northeast LRT Alignment

LRT- Induced Development 1990-2000 *

LRT Induced

Non LRT Induced

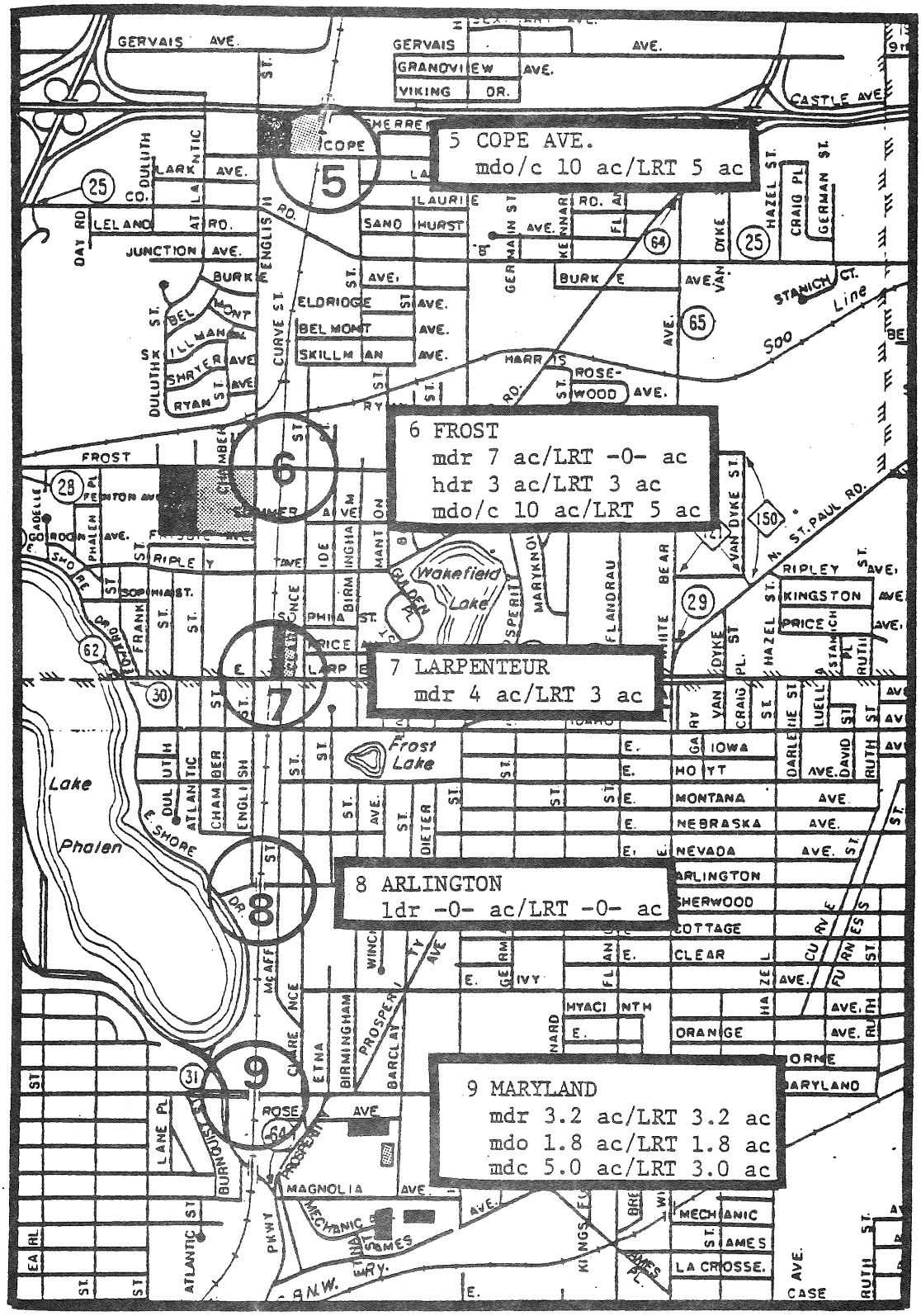
* Shaded areas show only approximate locations and percentages

0 1000' 2000' 3000'

Scale in Feet

N

MRI



Northeast LRT Alignment

LRT- Induced Development 1990-2000 *

LRT Induced

Non LRT Induced

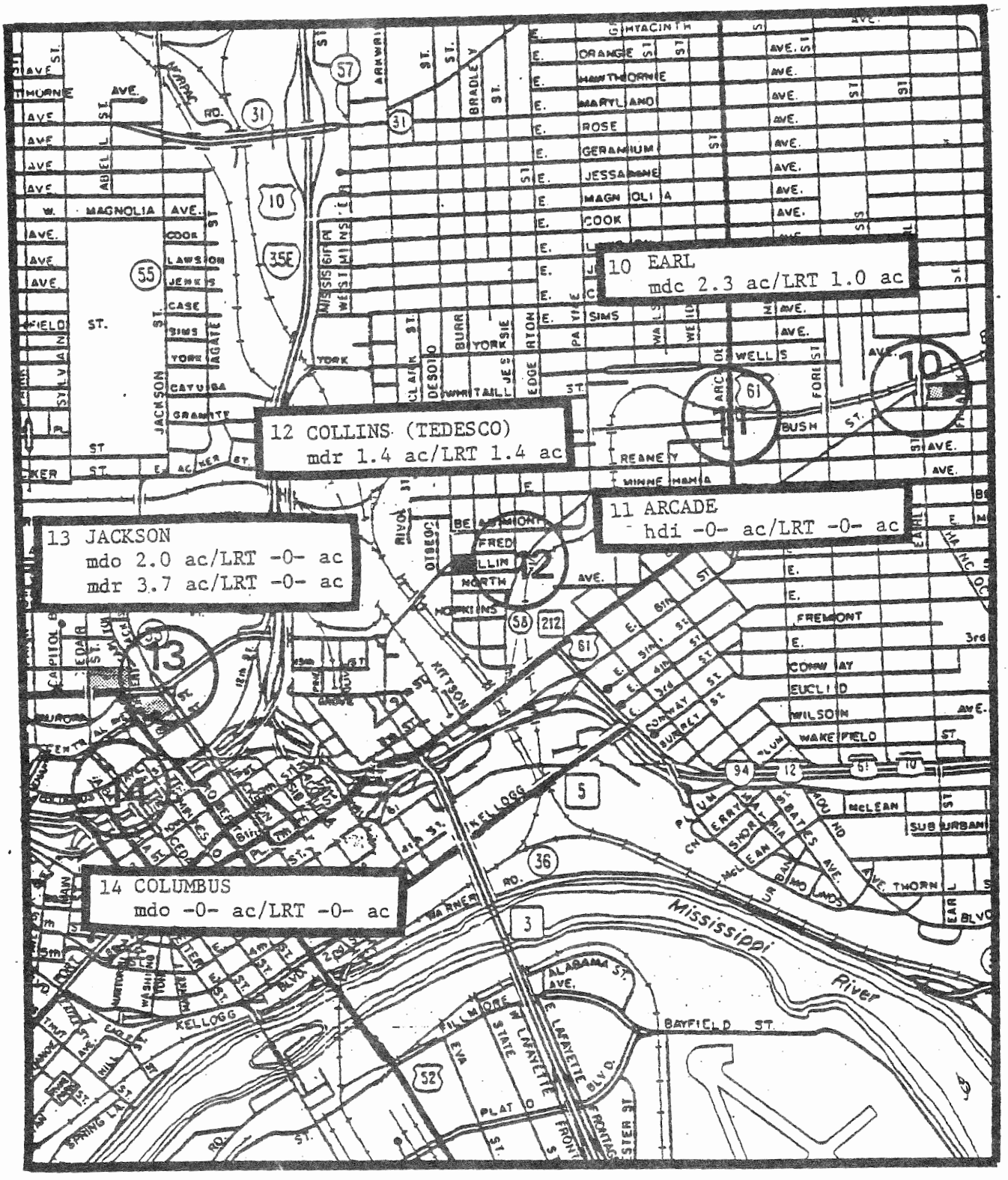
* Shaded areas show only approximate locations and percentages

0 1000' 2000' 3000'

Scale in Feet

N

MRI



Northeast LRT Alignment

LRT- Induced Development 1990-2000 *

LRT Induced

Non LRT Induced

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0 1000' 2000' 3000'

Scale in Feet

N

MRI

NORTHWEST LRT STUDY ALIGNMENT: STATION NODE LAND USE IMPACTS

	(1) Bass Lake Rd. & Brooklyn Blvd.	(2) 55th Ave. & Brooklyn Blvd.	(3) 50th Ave. & Drew	(4) Lake Drive & W. Broadway	(5) France Ave. & W. Broadway	(6) Lowry Ave. & W. Broadway	(7) 29th Ave. & W. Broadway
City	Brooklyn Center	Brooklyn Center	Brooklyn Center	Robbinsdale	Robbinsdale	Robbinsdale	Minneapolis
Station Area Major Land Uses	mdc/ldr residential	mdc/ldr commercial	mdr,c,i residential	mdc/ldr commercial	ldr residential	hospital/ldc,r commercial	ldc/ldr residential
LRT Land Use Impact	H	H	H	H	H	L	H
LRT Induced Development	NE	NW	NW/SE	SW	NE	NW	SW/SE
Major Quadrant							
Developable Land							
Vacant Land Size	H (7 acres)	H (2.4 acres)	H (11-15 acres)	L	L (1.4 acres)	L	L
Ease of Assembly	H	H	H	H	H	H	L
Present Zoning Allows Change	H	H	H	H	H	H	L
Zoning Land Use Change Potential	H	H	H	H	H	H	H
Infrastructure	H	H	L	H	L	H	H
Preparation Cost	H	H	L	H	L	H	H
Attractiveness of Site							
Activity of Node	H	H	H	H	H	H	H
Access	H	H	L	H	L	H	H
Parking Potential	H	L	H	L	H	L	L
Compatible Uses	H	H	H	H	L	H	H
Neighborhood Attitude	H	H	H	H	H	H	H
New Surrounding Land Development	H	H	L	L	H	L	L
Redevelopment Potential	H (2.3 acres)	H	H (18+ acres)	H	H	L (.5 acres)	H
Market Demand	H	L	H	L	L	L	L
Local Land Use Policies	Brooklyn Center			Robbinsdale			Minneapolis
Zoning Incentives	PUD			PUD			See next page.
Community Development Tools	CDBG			IRB, TIF, CDBG, Other			
Public/Private Packaging	None to date			Some through the HRA			
Growth Stage	Almost fully developed			Fully developed			
Official Growth Attitude	Favorable			Cautious			
Importance of LRT	Very Important			Somewhat Important			Very Important
*Regional Policy Impact	H	H	H	H	H	H	L
Overall Potential Impact	9-H -M -L	2-H 11-M 2-L	4-H 7-M 4-L	6-H 7-M 2-L	1-H 8-M 6-L	2-H 7-M 6-L	4-H 5-M 6-L
Rating/Comments	High	Medium	Medium	Medium	Medium	Low	Medium
	Vacant, commercial land proposed for a major office complex and change of S.F. residential to service commercial.	Proposed changes of single family to service and retail development.	Vacant and under-utilized light industrial land on NW quadrant. SE quadrant potential for industrial redevelopment.	Commercial redevelopment potential west of West Broadway.	Residential development of marginal land and under-utilized residential property.	Redevelopment of small commercial parcels adjacent to the hospital.	Redevelopment of light commercial to medium density residential.

* Not included in total site rating

Legend:
- l.d.r. = low density residential
- m.d.r. = medium density residential
- h.d.r. = high density residential
- l.d.c. = low density commercial
- m.d.c. = medium density commercial
- h.d.c. = high density commercial
- l.d.o. = low density office
- m.d.o. = medium density office
- h.d.o. = high density office
- l.d.i. = low density industrial
- m.d.i. = medium density industrial
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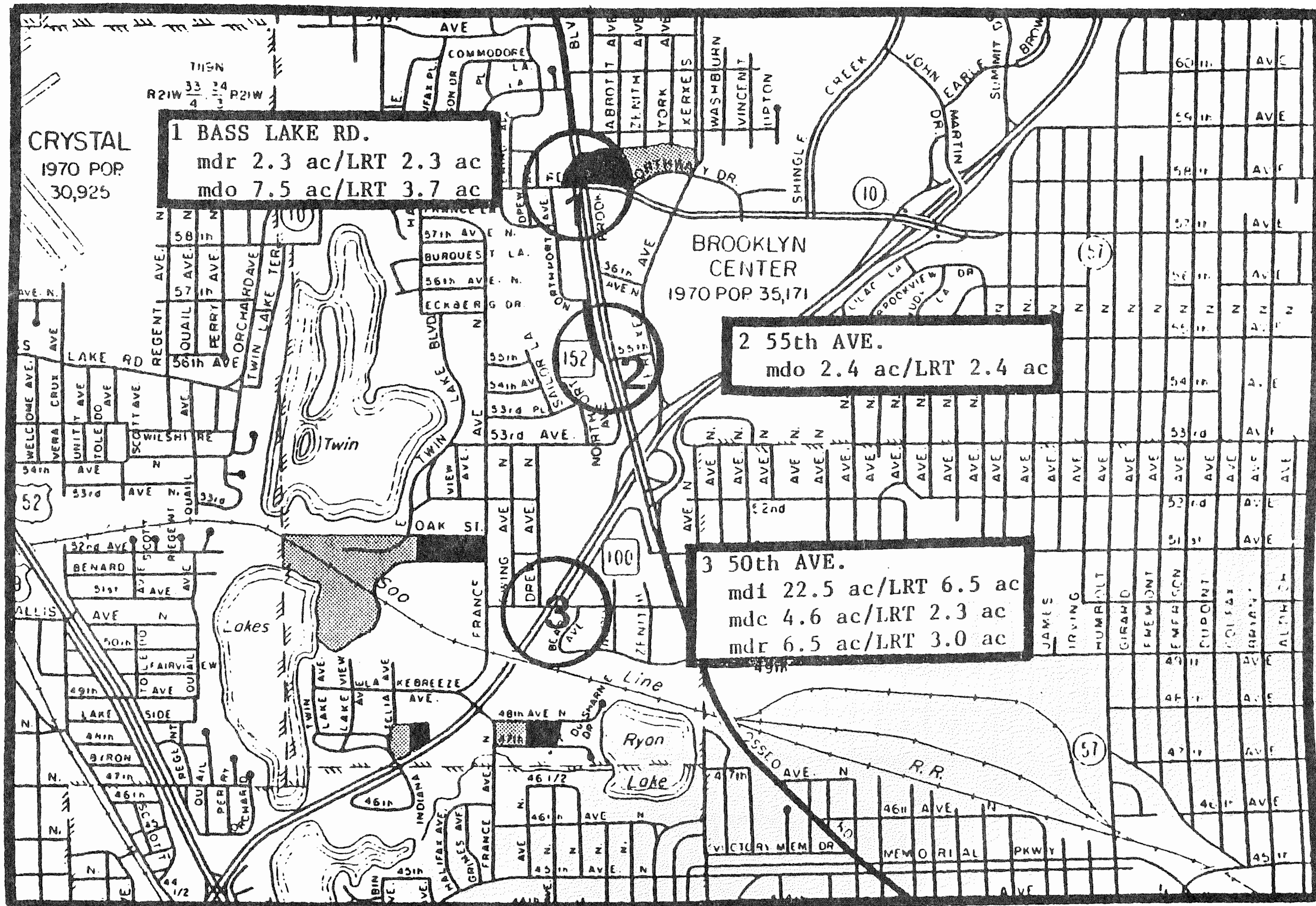
Source: Midwest Research Institute



Northwest LRT Alignment

LRT- Induced Development 1990 - 2000*

- LRT Induced
- Non LRT Induced

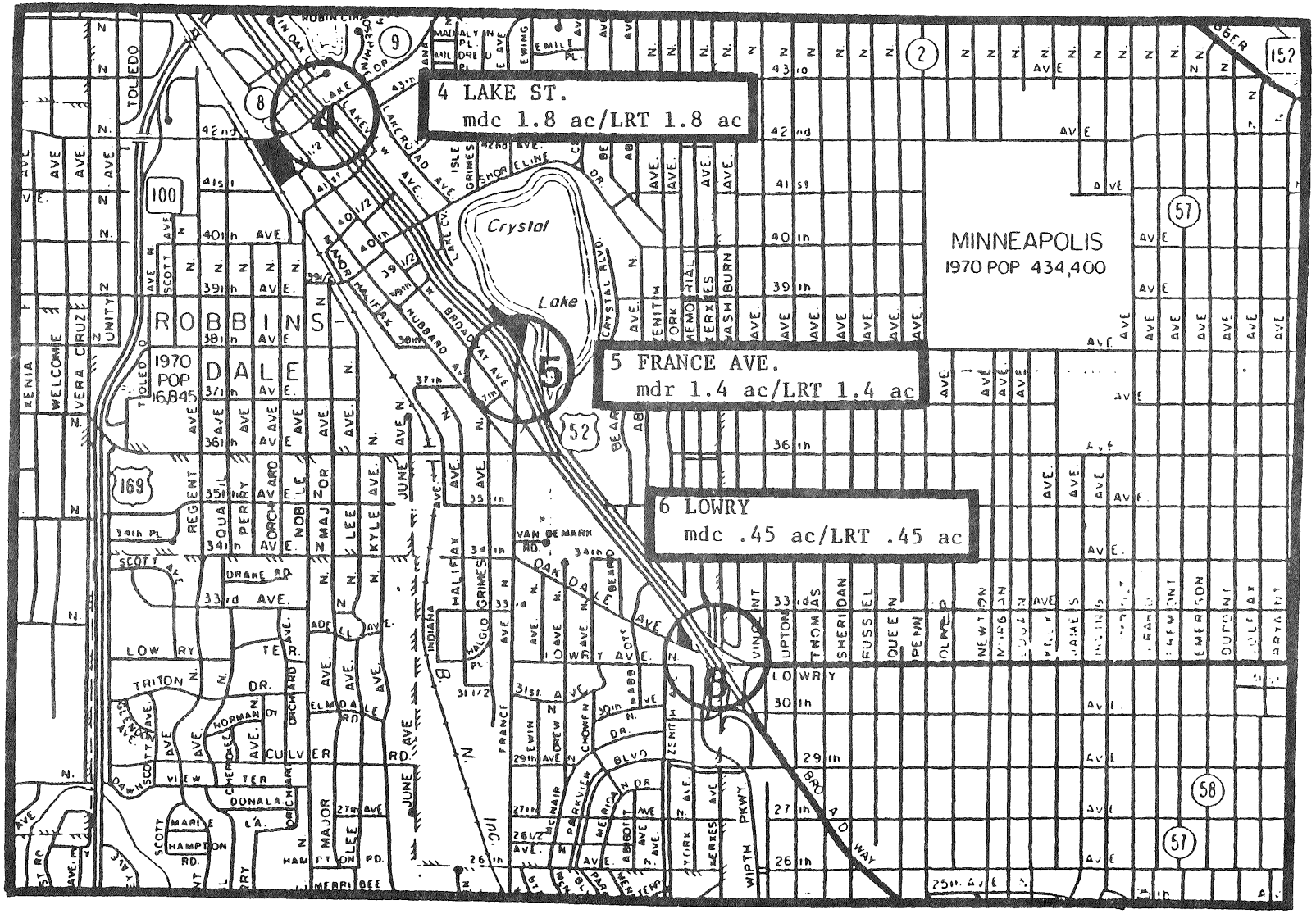
* Shaded areas show only approximate locations and percentages

0 1000' 2000' 3000'

Scale in Feet

N

MRI



Northwest LRT Alignment

LRT- Induced Development 1990-2000 *

- LRT Induced
- Non LRT Induced
- * Shaded areas show only approximate locations and percentages

0 1000' 2000' 3000'

Scale in Feet

N

MRI

NORTHWEST LRT STUDY ALIGNMENT: STATION NODE LAND USE IMPACTS
(Continued)

	(8) Penn Ave. & W. Broadway	(9) Knox Ave. & W. Broadway	(10) Broadway & Emerson Ave. No.	(11) 16th Ave. & Emerson Ave. No.	(12) Plymouth Ave. & Emerson Ave. No.	(13) Lyndale Ave. & 7th Street
City	Minneapolis	Minneapolis	Minneapolis	Minneapolis	Minneapolis	Minneapolis
Station Area Major Land Uses	ldr/ldc residential	ldr/ldc,inst.	mdc/mio	ldr	ldr/mdl,c	mdl
LRT Land Use Impact	H	H	L	H	H	H
LRT Induced Development	H					
Major Quadrant	SW/NW	NE	NW	SE/SW	SW	SE
Developable Land						
Vacant Land Size	L	L	L	L	H (6.4 acres)	L
Ease of Assembly	L	L	L	L	H	L
Present Zoning Allows Change	L	M	M	H	H	H
Zoning Land Use Change Potential	H	H	M	H	H	H
Infrastructure	H	H	H	H	M	H
Preparation Cost	H	H	H	H	H	H
Attractiveness of Site						
Activity of Node	H	H	M	L	H	H
Access	H	H	M	L	H	H
Parking Potential	H	H	L	L	H	H
Compatible Uses	H	H	H	H	H	H
Neighborhood Attitude	H	H	H	H	H	H
New Surrounding Land Development	H	H	L	H	H	L
Redevelopment Potential	H	H	H	H	H	H
Market Demand	L	M	L	H	L	L
Local Land Use Policies	Minneapolis					
Zoning Incentives	PUD, High zoning densities					
Community Development Tools	IRB, TIF, CDBG, Other					
Public/Private Packaging	Many					
Growth Stage	Developed					
Official Growth Attitude	Cautious, depends on the neighborhood					
Importance of LRT	Very Important					
*Regional Policy Impact	L	H	M	L	M	M
Overall Potential Impact	4-H 6-M 4-L	6-H 7-M 2-L	3-M 4-H 6-L	6-H 4-M 5-L	4-H 10-M 1-L	4-H 7-M 4-L
Rating/Comments	Medium	Medium	Low	Medium	Medium	Medium
	Redevelopment of commercial and S.F. residential to medium density residential.	Redevelopment of S.F. residential and commercial to medium density residential.	Limited redevelopment of the commercial node.	Limited development of vacant single family lots. Some rehabilitation to occur.	Development of vacant industrial land.	Some redevelopment of auto salvage land uses to industrial and service uses.

* Not included in total site rating

Legend:
- l.d.r. = low density residential
- m.d.r. = medium density residential
- h.d.r. = high density residential
- l.d.c. = low density commercial
- m.d.c. = medium density commercial
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- l.d.o. = low density office
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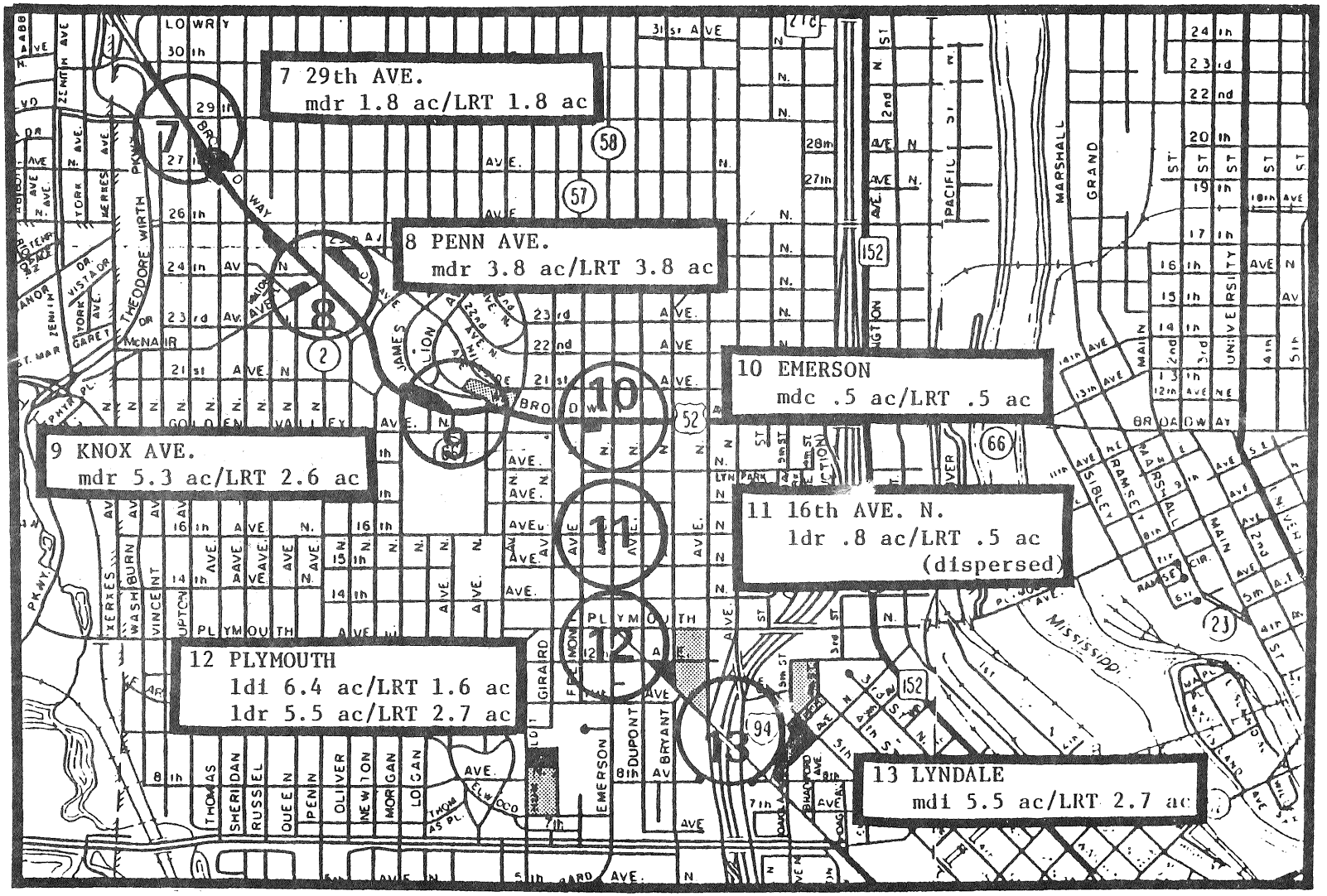

Northwest LRT Alignment

LRT- Induced Development 1990-2000*

- LRT Induced
- Non LRT Induced
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0 1000' 2000' 3000'

Scale in Feet

N

MRI