

Metro Transit  
Arterial Transitway Corridors Study

---

**Technical Memorandum #1**  
**Existing Conditions**

REVISED 8/25/2011

Prepared by the  
SRF Consulting Group Team



## Contents

<b>Introduction .....</b>	<b>1</b>
<b>Snelling Avenue.....</b>	<b>9</b>
<b>Lake Street .....</b>	<b>21</b>
<b>American Boulevard .....</b>	<b>36</b>
<b>Central Avenue .....</b>	<b>48</b>
<b>West Broadway .....</b>	<b>62</b>
<b>Hennepin Avenue .....</b>	<b>74</b>
<b>Nicollet Avenue.....</b>	<b>86</b>
<b>Chicago Avenue .....</b>	<b>97</b>
<b>West 7th Street .....</b>	<b>110</b>
<b>East 7th Street.....</b>	<b>123</b>
<b>Robert Street.....</b>	<b>134</b>
<b>Purpose and Need .....</b>	<b>145</b>

## Tables

Table 1. Key Transit Performance Characteristics by Corridor .....	4
Table 2. Population in Poverty by Corridor, 1999.....	5
Table 3. Zero-Vehicle Households by Corridor, 2000.....	5
Table 4. Population with a Disability, 2000.....	6
Table 5. Forecasted Population Growth by Corridor, 2000-2030.....	6
Table 6. Forecasted Household Growth by Corridor, 2000-2030.....	7
Table 7. Forecasted Employment Growth by Corridor, 2000-2030.....	8
Table 8. Snelling Avenue Roadway Characteristics.....	10
Table 9. Route 84 Service Characteristics, September 2010.....	14
Table 10. Route 84 Performance, 2009 Annual Totals.....	15
Table 11. Route 84 On-Time Performance, October 2010.....	15
Table 12. Lake Street Roadway Characteristics.....	22
Table 13. Routes 21 and 53 Service Characteristics, September 2010.....	28
Table 14. Routes 21 and 53 Performance, 2009 Annual Totals.....	29
Table 15. Routes 21 and 53 On-Time Performance, October 2010.....	29
Table 16. American Boulevard Roadway Characteristics.....	37
Table 17. Route 542 Service Characteristics, September 2010.....	41
Table 18. Route 542 Performance, 2009 Annual Totals.....	41
Table 19. Route 542 On-Time Performance, October 2010.....	43
Table 20. Central Avenue Roadway Characteristics.....	49
Table 21. Routes 10 and 59 Service Characteristics, September 2010.....	54
Table 22. Routes 10 and 829 Performance, 2009 Annual Totals.....	55
Table 23. Routes 10 and 59 Weekday On-Time Performance, October 2010.....	55
Table 24. West Broadway Roadway Characteristics.....	63
Table 25. Route 14 Service Characteristics, September 2010.....	68
Table 26. Route 14 Performance, 2009 Annual Totals.....	68
Table 27. Route 14 On-Time Performance, October 2010.....	69
Table 28. Hennepin Avenue Roadway Characteristics.....	75
Table 29. Route 6 and 12 Service Characteristics, September 2010.....	79
Table 30. Route 6 Performance, 2009 Annual Totals.....	80
Table 31. Route 12 Performance, 2009 Annual Totals.....	80
Table 32. Route 6 and 12 On-Time Performance, October 2010.....	80
Table 33. Nicollet Avenue Roadway Characteristics.....	87
Table 34. Route 18 Service Characteristics, September 2010.....	91
Table 35. Route 18 Performance, 2009 Annual Totals.....	91
Table 36. Route 18 On-Time Performance, October 2010.....	92
Table 37. Chicago Avenue Roadway Characteristics.....	98
Table 38. Route 5 Service Characteristics, September 2010.....	103
Table 39. Route 5 Performance, 2009 Annual Totals.....	104
Table 40. Route 5 On-Time Performance, October 2010.....	104
Table 41. West 7th Street Roadway Characteristics.....	111
Table 42. Route 54 Service Characteristics, September 2010.....	116
Table 43. Route 54 Performance, 2009 Annual Totals.....	116
Table 44. Route 54 On-Time Performance, October 2010.....	117
Table 45. East 7th Street Roadway Characteristics.....	124
Table 46. Route 64 Service Characteristics, September 2010.....	128
Table 47. Route 64 Performance, 2009 Annual Totals.....	128
Table 48. Route 64 On-Time Performance, October 2010.....	129
Table 49. Robert Street Roadway Characteristics.....	135
Table 50. Route 68 Service Characteristics, September 2010.....	139
Table 51. Route 68 Performance, 2009 Annual Totals.....	139
Table 52. Route 68 On-Time Performance, October 2010.....	140
Table 53. Corridor-Specific Purpose and Need Elements.....	146

**Figures**

Figure 1. Arterial Transitway Study Corridors ..... 2

Figure 2. Snelling Avenue Corridor ..... 9

Figure 3. Snelling Avenue Corridor– Route 84 and Connecting Services ..... 13

Figure 4. Snelling Avenue Corridor Weekday Ridership by Stop, October 2010 ..... 16

Figure 5. Route 84 Ridership by Fare Category, October 2010 ..... 17

Figure 6. Snelling Avenue Corridor Existing Transit Infrastructure ..... 18

Figure 7. Lake Street Corridor ..... 21

Figure 8. Lake Street Corridor Routes and Connecting Services ..... 27

Figure 9. Lake Street Corridor Weekday Ridership by Stop, October 2010 ..... 31

Figure 10. Routes 21 (left) and 53 (right) Ridership by Fare Category, October 2010 ..... 32

Figure 11. Lake Street Corridor Existing Transit Infrastructure ..... 33

Figure 12. American Boulevard Corridor ..... 36

Figure 13. American Boulevard Corridor– Route 542 and Connecting Services ..... 42

Figure 14. American Boulevard Corridor Weekday Ridership by Stop, October 2010 ..... 44

Figure 15. Route 542 Ridership by Fare Category, October 2010 ..... 45

Figure 16. American Boulevard Corridor Existing Transit Infrastructure ..... 46

Figure 17. Central Avenue Corridor ..... 48

Figure 18. Central Avenue Corridor Routes and Connecting Services ..... 52

Figure 19. Central Avenue Corridor Weekday Ridership by Stop, October 2010 ..... 57

Figure 20. Routes 10 (left) and 59 (right) Ridership by Fare Category, October 2010 ..... 58

Figure 21. Central Avenue Corridor Existing Transit Infrastructure ..... 60

Figure 22. West Broadway Corridor ..... 62

Figure 23. West Broadway Avenue – Route 14 and Connecting Services ..... 67

Figure 24. West Broadway Avenue Corridor Weekday Ridership by Stop, October 2010 ..... 70

Figure 25. Route 14 Ridership by Fare Category, October 2010 ..... 71

Figure 26. West Broadway Avenue Corridor Existing Transit Infrastructure ..... 72

Figure 27. Hennepin Avenue Corridor ..... 74

Figure 28. Hennepin Avenue Corridor Routes and Connecting Services ..... 78

Figure 29. Hennepin Avenue Corridor Weekday Ridership by Stop, October 2010 ..... 82

Figure 30. Route 6 (left) and 12 (right) Ridership by Fare Category, October 2010 ..... 83

Figure 31. Hennepin Avenue Corridor Existing Transit Infrastructure ..... 84

Figure 32. Nicollet Avenue Corridor ..... 86

Figure 33. Nicollet Avenue Corridor Routes and Connecting Services ..... 90

Figure 34. Nicollet Avenue Corridor Weekday Ridership by Stop, October 2010 ..... 93

Figure 35. Route 18 Ridership by Fare Category, October 2010 ..... 94

Figure 36. Nicollet Avenue Corridor Existing Transit Infrastructure ..... 95

Figure 37. Chicago Avenue Corridor ..... 97

Figure 38. Chicago Avenue Corridor Routes and Connecting Services ..... 102

Figure 39. Route 5 Ridership by Fare Category, October 2010 ..... 105

Figure 40. Chicago Avenue Corridor Weekday Ridership by Stop, October 2010 ..... 106

Figure 41. Chicago Avenue Corridor Existing Transit Infrastructure ..... 108

Figure 42. West 7th Street Corridor ..... 110

Figure 43. West 7th Street Corridor Routes and Connecting Services ..... 115

Figure 44. West 7th Street Corridor Weekday Ridership by Stop, October 2010 ..... 118

Figure 45. Route 54 Ridership by Fare Category, October 2010 ..... 119

Figure 46. West 7th Street Corridor Existing Transit Infrastructure ..... 120

Figure 47. East 7th Street Corridor ..... 123

Figure 48. East 7th Street Corridor Routes and Connecting Services ..... 127

Figure 49. East 7th Street Corridor Weekday Ridership by Stop, October 2010 ..... 130

Figure 50. Route 64 Ridership by Fare Category, October 2010 ..... 131

Figure 51. East 7th Street Corridor Existing Transit Infrastructure ..... 132

Figure 52. Robert Street Corridor ..... 134

Figure 53. Robert Street Corridor Routes and Connecting Services ..... 138

Figure 54. Robert Street Corridor Weekday Ridership by Stop, October 2010 ..... 141

Figure 55. Route 68 Ridership by Fare Category, October 2010 ..... 142

Figure 56. Robert Street Corridor Existing Transit Infrastructure ..... 143

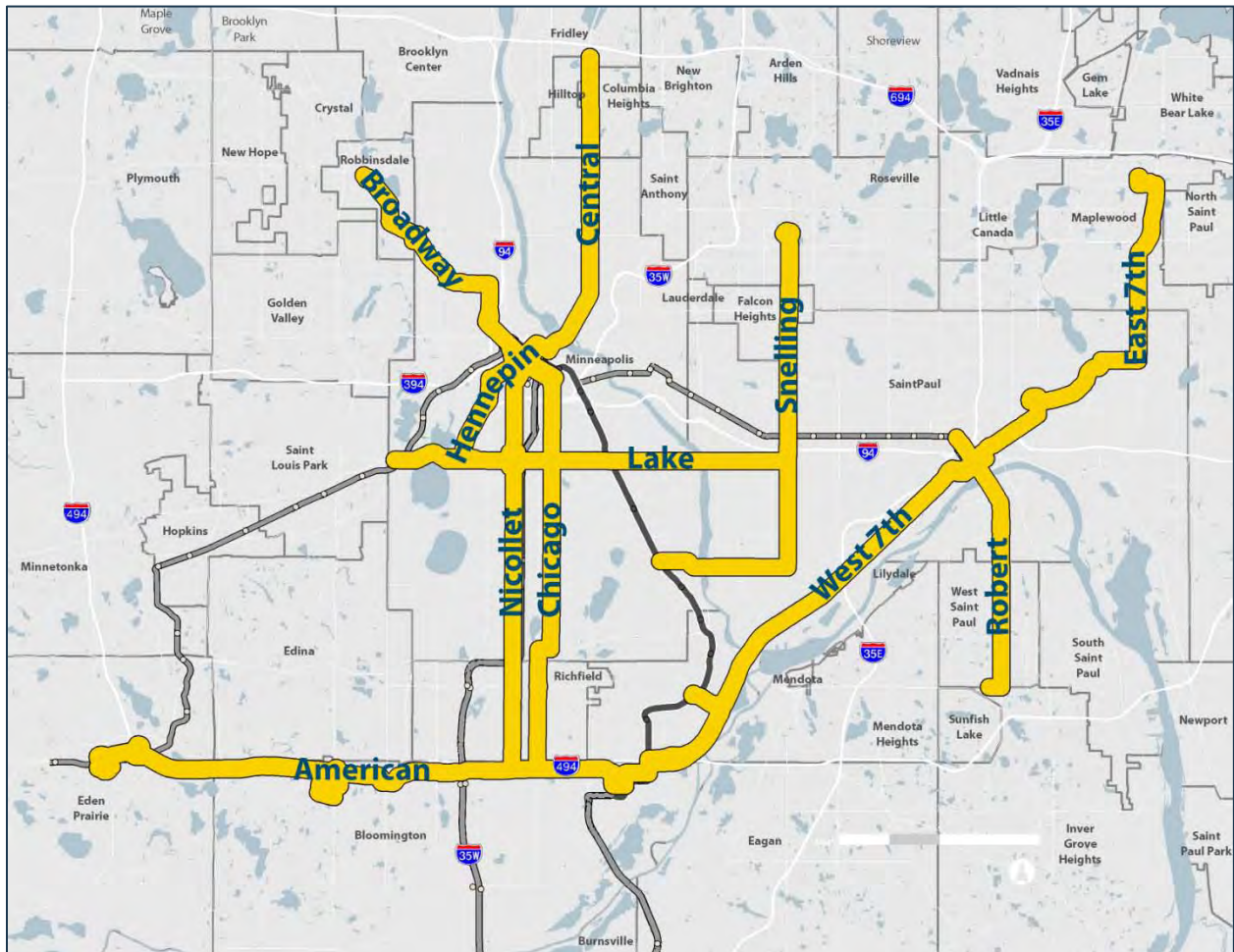
## Introduction

The Metropolitan Council's *2030 Transportation Policy Plan* (TPP) includes the goal of doubling transit ridership to about 147 million rides by 2030. Since the goal was set in 2004, transit ridership has grown steadily. Ridership is an important measurement of the transit system's performance. Steadily increasing transit ridership reflects a transportation system that provides enhanced regional mobility, offers an alternative to congestion, and benefits the environment. The TPP envisions three strategies to increasing transit ridership and helping meet the mobility needs of the Twin Cities:

1. Expanding the bus system by improving coverage and frequency; adding express routes, transit centers and park-and-ride facilities, and making technological improvements;
2. Utilizing highway improvements—such as high occupancy toll (HOT) and high occupancy vehicle (HOV) lanes, bus-only shoulder lanes, ramp meter bypasses and other improvements—that give transit a travel-time advantage over single-occupant vehicles; and,
3. Developing a network of bus and rail transitways.

The purpose of the Arterial Transitway Corridors Study (ATCS) is to develop a facility and service plan to enhance efficiency, speed, reliability, customer amenities and transit market competitiveness on high demand local bus corridors identified for Arterial Bus Rapid Transit (ABRT) in the TPP. The 11 corridors shown in Figure 1 will be evaluated for improvements. The corridors identified in Figure 1 are as follows:

1. Snelling Avenue: Hiawatha 46th Street Station to Rosedale Mall
2. Lake Street: West Lake LRT Station to Snelling/University
3. American Boulevard: Mall of America to Southwest LRT Station
4. Central Avenue: 53rd Avenue to downtown Minneapolis
5. West Broadway: Robbinsdale Transit Center to downtown Minneapolis
6. Hennepin Avenue: West Lake LRT Station to downtown Minneapolis
7. Nicollet Avenue: American Boulevard to downtown Minneapolis
8. Chicago Avenue: Mall of America to downtown Minneapolis
9. West 7th Street: Mall of America to downtown St. Paul
10. East 7th Street: Maplewood Mall to downtown St. Paul
11. Robert Street: Mendota Road to downtown St. Paul

**Figure 1. Arterial Transitway Study Corridors**

This technical memorandum summarizes the following for each study corridor:

- Roadway characteristics and improvement plans
- Transit market and system conditions
- Planned land use changes on the corridors
- Current demographics and forecasted growth

Based on the findings of existing conditions analysis, statements of purpose and need for transit improvements in the eleven study corridors are developed. Purpose and need for arterial bus rapid transit is presented in the last section of this technical memorandum.

## Current Roadway Conditions

One of the initial tasks necessary to aid in the understanding of the existing conditions was to document existing roadway information. SRF worked with the appropriate roadway jurisdiction agency for each of the corridors to obtain the relevant information. The information requested included:

- Current and future (2030) traffic volumes – Average Annual Daily Traffic (AADT)
- Traffic controls (i.e. traffic signals)
- Typical right of way width (from property line to property line abutting the roadway)
- Lane configuration, including:
  - Number and width of driving lanes
  - Turn lanes
  - Parking allowed (Y/N) and any restrictions
  - Bike lanes or other treatments (Y/N)
  - Sidewalks (Y/N)
- Any significant changes planned for the next 5 to 10 years

The objective of the data collection effort was to understand the general conditions in each corridor segment and identify potential challenges and opportunities for transit improvements.

## Existing Transit Conditions

The second initial task was to document the transit services currently operating in each of the corridors. Existing transit conditions reports in this memorandum include:

- A description of the corridor and the transit routes operating in the corridor
- Current service characteristics and performance for primary corridor routes to understand the existing market conditions
- Route-level on-time performance for high-level identification of speed issues
- Graphic depiction of stop-level ridership to understand current boarding patterns
- A breakdown of ridership by fare media and fare type to understand the relative influence of boarding on route delay
- A sketch-level inventory of transit infrastructure present in the corridor

Table 1 contains a summary of key existing transit service performance characteristics for the primary affected routes in each corridor. The information provides an overview of the relative strength of existing transit service in the 11 corridors, and will be used to develop purpose and need statements for arterial bus rapid transit improvements in the corridors.



**Table 1. Key Transit Performance Characteristics by Corridor**

Corridor	One-way length (miles)	Route(s)	Weekday passengers per in-service hour <sup>1</sup>	On-time performance <sup>2</sup>	Average weekday in-service speed <sup>1</sup>	Percent non-smartcard fare payment <sup>3</sup>	Approximate weekday corridor boardings <sup>4</sup>
<b>Snelling</b>	9.6	84	38.5	90.7%	16.2	66.9%	<b>3,800</b>
<b>Lake</b>	8.4	21 53	58.7 39.7	86.1% 88.4%	10.0 13.2	73.6% 54.3%	<b>10,000</b>
<b>American</b>	12.9	542	10.9	96.0%	16.8	58.0%	<b>200</b>
<b>Central</b>	7.0	10 59	45.9 26.3	81.9% 78.6%	13.1 15.0	74.9% 50.8%	<b>7,000</b>
<b>Broadway</b>	6.4	14	40.4	87.4%	12.8	72.0%	<b>3,100</b>
<b>Hennepin</b>	4.4	6 12	43.2 31.6	85.9% 86.3%	12.3 13.9	45.6% 57.8%	<b>8,300</b>
<b>Nicollet</b>	8.6	18	51.5	90.4%	10.9	71.7%	<b>13,600</b>
<b>Chicago</b>	10.9	5	54.7	85.2%	11.8	76.1%	<b>8,000</b>
<b>West 7th</b>	11.8	54	40.4	91.7%	19.1	68.9%	<b>4,100</b>
<b>East 7th</b>	9.5	64	38.9	89.7%	14.3	81.0%	<b>1,800</b>
<b>Robert</b>	5.5	68	33.0	92.8%	15.2	75.5%	<b>2,800</b>
<b>ATCS Corridors Average</b>	<b>8.6</b>	<b>--</b>	<b>39.6</b>	<b>87.9%</b>	<b>13.9</b>	<b>66.2%</b>	<b>5,700</b>

## Planned Land Use Changes

Understanding major changes planned for the areas surrounding corridors in this study is useful for locating stations, making concept plans for roadway treatments, and developing service plans. To learn about important planned land use changes in the corridors, the project team interviewed planning staff from corridor municipalities. The results of these interviews are presented for each corridor later in this memorandum.

## Demographics and Forecasted Growth

The fourth part of existing conditions reported in this memorandum summarizes demographic and socioeconomic information for residents of the 11 corridors, as well as forecasted assigned growth as defined by the Metropolitan Council.

<sup>1</sup> 2009 Regional Performance Report; calculated at route level.

<sup>2</sup> October 2010 Route Adherence Performance Summary, calculated at route level.

<sup>3</sup> October 2010 fare report; calculated at route level.

<sup>4</sup> October 2010 Automated Passenger Counter report; includes all affected corridor routes (not intersecting routes) within defined corridor.

### Low-Income and Limited Mobility Populations

Low-income populations, zero-vehicle households, and the population over five years of age with disabilities were identified through an examination of 2000 U.S. Census block group-level data for a quarter-mile on each side of the corridors.

Table 2 summarizes the percentage of the population living in poverty for each corridor. The West Broadway corridor has the greatest percentage of the population living in poverty as compared to the other corridors.

**Table 2. Population in Poverty by Corridor, 1999**

	Total population in poverty	Percent of population in poverty
Snelling	4,577	9%
Lake	11,748	16%
American	2,233	6%
Central	6,770	14%
Broadway	10,362	23%
Hennepin	4,479	11%
Nicollet	11,634	15%
Chicago	12,751	18%
West 7th	4,299	13%
East 7th	9,972	17%
Robert	5,448	16%
<b>Twin Cities Metro Area</b>	<b>179,316</b>	<b>7%</b>

Source: Census 2000

Table 3 identifies the percentage of households without a vehicle within ¼ mile of each of the corridors. The West Broadway corridor has the greatest percentage of zero-vehicle households as compared to the other corridors.

**Table 3. Zero-Vehicle Households by Corridor, 2000**

	Total households	Households without vehicle	Percent of households without vehicle
Snelling	24,559	3,166	13%
Lake	34,221	6,659	19%
American	16,944	1,585	9%
Central	24,589	5,805	24%
Broadway	18,722	5,891	31%
Hennepin	25,329	5,339	21%
Nicollet	37,063	9,182	25%
Chicago	30,104	7,173	24%
West 7th	17,467	4,163	24%
East 7th	24,666	5,393	22%
Robert	15,433	3,747	24%
<b>Twin Cities Metro Area</b>	<b>1,021,454</b>	<b>87,091</b>	<b>9%</b>

Source: Census 2000

Table 4 identifies the population over five years of age with a disability in each of the corridors. As summarized in Table 4, 22 percent of the population in the West Broadway, East 7th Street, and Robert Street corridors has disabilities.

**Table 4. Population with a Disability, 2000**

	Population 5+ years with a disability	Percent of population 5+ years with disability
Snelling	6,969	13%
Lake	11,527	16%
American	5,604	16%
Central	9,740	21%
Broadway	9,352	22%
Hennepin	5,652	14%
Nicollet	13,958	19%
Chicago	14,075	21%
West 7th	6,581	21%
East 7th	12,100	22%
Robert	6,870	22%
<b>Twin Cities Metro Area</b>	<b>336,888</b>	<b>14%</b>

Source: Census 2000

### Forecasted Growth

Forecasts for population, households, and employment are assembled at the transportation analysis zone (TAZ) level. Corridor totals include the TAZs within a half-mile of the corridor alignment. Population and household totals do not match those reported in the previous section because the populations are summed at different geographic levels. As shown in Table 5, the Hennepin Avenue corridor has the greatest percent increase in population forecasted between 2000 and 2030. The population is forecasted to increase by 61 percent in the corridor, with 47 percent of the growth outside downtown Minneapolis. The forecasted percent increase for the Hennepin Avenue corridor is greater than the increase for the Twin Cities Metro Area.

**Table 5. Forecasted Population Growth by Corridor, 2000-2030**

	Population (2000)	Population (2030)	Change 2000-2030	Percent change 2000-2030
Snelling	116,456	133,587	17,131	15%
Lake	152,622	177,195	24,573	16%
American	68,480	93,591	25,111	37%
Central	85,543	120,979	35,436	41%
<i>Outside downtown Mpls</i>	70,410	88,274	17,864	25%
Broadway	87,303	108,152	20,849	24%
<i>Outside downtown Mpls</i>	74,689	79,684	4,995	7%
Hennepin	73,652	118,325	44,673	61%
<i>Outside downtown Mpls</i>	60,809	89,396	28,587	47%
Nicollet	152,144	192,563	40,419	27%
<i>Outside downtown Mpls</i>	137,031	160,711	23,680	17%
Chicago	140,280	175,227	34,947	25%
<i>Outside downtown Mpls</i>	125,259	142,674	17,415	14%
West 7th	62,025	86,783	24,758	40%
<i>Outside downtown St. Paul</i>	56,853	77,086	20,233	36%
East 7th	105,770	130,825	25,055	24%
<i>Outside downtown St. Paul</i>	100,598	121,128	20,530	20%
Robert	56,730	78,589	21,859	39%
<i>Outside downtown St. Paul</i>	51,558	68,892	17,334	34%
<b>Twin Cities Metro Area</b>	<b>2,642,062</b>	<b>3,734,838</b>	<b>1,092,776</b>	<b>41%</b>

Source: Metropolitan Council Socioeconomic Forecasts, obtained November 2010

Table 6 summarizes the forecasted household growth by corridor. As shown in the table, the Hennepin Avenue corridor has the greatest percent increase. The number of households is forecasted to increase by 52 percent in the corridor, with 36 percent of the growth outside downtown Minneapolis. The percent increase for the Hennepin Avenue corridor is greater than the forecasted percent increase for the Twin Cities Metro Area.

**Table 6. Forecasted Household Growth by Corridor, 2000-2030**

	Households (2000)	Households (2030)	Change 2000-2030	Percent change 2000-2030
<b>Snelling</b>	49,388	56,871	7,483	15%
<b>Lake</b>	67,591	76,662	9,071	13%
<b>American</b>	30,928	44,510	13,582	44%
<b>Central</b>	41,132	60,253	19,121	46%
<i>Outside downtown Mpls</i>	32,202	40,861	8,659	27%
<b>Broadway</b>	34,284	48,824	14,540	42%
<i>Outside downtown Mpls</i>	27,290	32,140	4,850	18%
<b>Hennepin</b>	40,295	61,367	21,072	52%
<i>Outside downtown Mpls</i>	32,461	44,184	11,723	36%
<b>Nicollet</b>	71,336	91,639	20,303	28%
<i>Outside downtown Mpls</i>	62,414	72,803	10,389	17%
<b>Chicago</b>	58,430	78,615	20,185	35%
<i>Outside downtown Mpls</i>	50,494	59,947	9,453	19%
<b>West 7th</b>	28,586	41,557	12,971	45%
<i>Outside downtown St. Paul</i>	25,143	33,153	8,010	32%
<b>East 7th</b>	40,224	52,272	12,048	30%
<i>Outside downtown St. Paul</i>	36,781	43,868	7,087	19%
<b>Robert</b>	22,644	31,935	9,291	41%
<i>Outside downtown St. Paul</i>	19,201	23,531	4,330	23%
<b>Twin Cities Metro Area</b>	<b>1,021,454</b>	<b>1,529,761</b>	<b>508,307</b>	<b>50%</b>

Source: Metropolitan Council Socioeconomic Forecasts, obtained November 2010

Table 7 summarizes the forecasted employment growth by corridor. As shown in the table, the Robert Street corridor is forecasted to increase employment by 41 percent, with 39 percent of the growth outside downtown St. Paul. The percent increase for the Robert Street corridor is slightly greater than the forecasted percent increase for the Twin Cities Metro Area.

**Table 7. Forecasted Employment Growth by Corridor, 2000-2030**

	Employment (2000)	Employment (2030)	Change 2000-2030	Percent change 2000-2030
<b>Snelling</b>	77,453	78,935	1,482	2%
<b>Lake</b>	74,757	82,636	7,879	11%
<b>American</b>	175,016	216,168	41,152	24%
<b>Central</b>	175,960	199,556	23,596	13%
<i>Outside downtown Mpls</i>	42,817	48,205	5,388	13%
<b>Broadway</b>	164,413	186,997	22,584	14%
<i>Outside downtown Mpls</i>	34,607	41,127	6,520	19%
<b>Hennepin</b>	170,733	192,215	21,482	13%
<i>Outside downtown Mpls</i>	40,694	46,026	5,332	13%
<b>Nicollet</b>	200,491	227,791	27,300	14%
<i>Outside downtown Mpls</i>	69,932	80,952	11,020	16%
<b>Chicago</b>	255,161	303,178	48,017	19%
<i>Outside downtown Mpls</i>	120,156	149,576	29,420	24%
<b>West 7th</b>	165,855	220,751	54,896	33%
<i>Outside downtown St. Paul</i>	126,611	164,014	37,403	30%
<b>East 7th</b>	106,904	151,109	44,205	41%
<i>Outside downtown St. Paul</i>	67,660	94,372	26,712	39%
<b>Robert</b>	91,110	128,527	37,417	41%
<i>Outside downtown St. Paul</i>	51,866	71,790	19,924	38%
<b>Twin Cities Metro Area</b>	<b>1,606,023</b>	<b>2,226,025</b>	<b>620,002</b>	<b>39%</b>

Source: Metropolitan Council Socioeconomic Forecasts, obtained November 2010

## Snelling Avenue

### Roadway Conditions

Roadway information was requested from the cities of St. Paul, Minneapolis, and Roseville as well as the Minnesota Department of Transportation (MnDOT) for the Snelling Avenue corridor. Existing conditions information is summarized by the following segments in Table 8.

- Segment 1: County Road B2/Rosedale Mall
- Segment 2: Snelling Avenue (County Road B2 to Hoyt Avenue)
- Segment 3: Snelling Avenue (Hoyt Avenue to St. Clair Avenue)
- Segment 4: Snelling Avenue (St. Clair Avenue to Ford Parkway)
- Segment 5: Ford Parkway (Snelling Avenue to Mississippi River)
- Segment 6: 46th Street East (Mississippi River to Hiawatha Avenue)

Figure 2 is a map of the Snelling Avenue corridor.

Figure 2. Snelling Avenue Corridor



**Table 8. Snelling Avenue Roadway Characteristics**

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Lane Width (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 Years
1			Signalized intersections		2 lanes/ direction		Yes	No	No	Yes	None identified.
2	35,000-41,000		Signalized intersections	100 is typical; variable between B2 and Pierce Butler Road	2 lanes/ direction		Yes	No	No	Yes	Mill and overlay in 2011. Project may be delayed to see if additional amenities could be added, such as bike lanes.
3	26,000-46,000	30,000-51,000	Signalized intersections	100	2 lanes/ direction	10-12	Yes	Some	No	Yes	Mill and overlay in 2011. Project may be delayed to see if additional amenities could be added, such as bike lanes.
4	19,600-26,000	21,550-25,475	Signalized intersections	100	2 lanes/ direction	10	No	Some	No	Yes	Mill and overlay in 2011. Project may be delayed to see if additional amenities could be added, such as bike lanes.
5	10,525-18,900	12,775-22,950	Signalized intersections		1 lane/ direction between Snelling and just west of Howell St; 2 lanes/ direction west of Howell	10-13	Yes	Yes	No	Yes	None identified.
6	13,000-17,000	15,400-19,400	Divided controlled access	100	2 lanes/ direction	12	Yes-12'	No	No	Yes	None identified.

Signalized intersections in the corridor are located at the following locations (listed from north to south):

- Roseville
  - County Rd B2 at Rosedale Mall
  - County Rd B2 at Snelling Ave ramps
  - Snelling Ave at County Rd B
  - Snelling Ave at Har Mar Mall
  - Snelling Ave at Roselawn
  - Snelling Ave at Larpenteur
  
- Saint Paul
  - Snelling Ave at Hoyt
  - Snelling Ave at Midway Pkwy
  - Snelling Ave at Hewitt
  - Snelling Ave at Minnehaha
  - Snelling Ave at Thomas
  - Snelling Ave at University
  - Snelling Ave at Spruce Tree Dr
  - Snelling Ave at Saint Anthony
  - Snelling Ave at Concordia
  - Snelling Ave at Marshall
  - Snelling Ave at Selby
  - Snelling Ave at Summit
  - Snelling Ave at Grand
  - Snelling Ave at Saint Clair
  - Snelling Ave at Jefferson
  - Snelling Ave at Randolph
  - Snelling Ave at Highland Pkwy
  - Snelling Ave at Ford Pkwy
  - Ford Pkwy at Fairview
  - Ford Pkwy at Kenneth
  - Ford Pkwy at Cleveland
  - Ford Pkwy at Finn
  - Ford Pkwy at Cretin
  
- Minneapolis
  - 46th St at 46th Av S
  - 46th St at 42nd Av S
  - 46th St at 36th Av S
  - 46th St at Minnehaha Av S
  - Hiawatha Av at 46th St



## Existing Transit Conditions – Route 84

The proposed Snelling Avenue corridor follows Snelling Avenue from Rosedale Transit Center to Ford Parkway. It then continues west along Ford Parkway to 46th Street Station on the Hiawatha light rail transit (LRT) Line. Route 84 is the primary Metro Transit route that serves this corridor. The corridor alignment and existing transit services are shown in Figure 3.

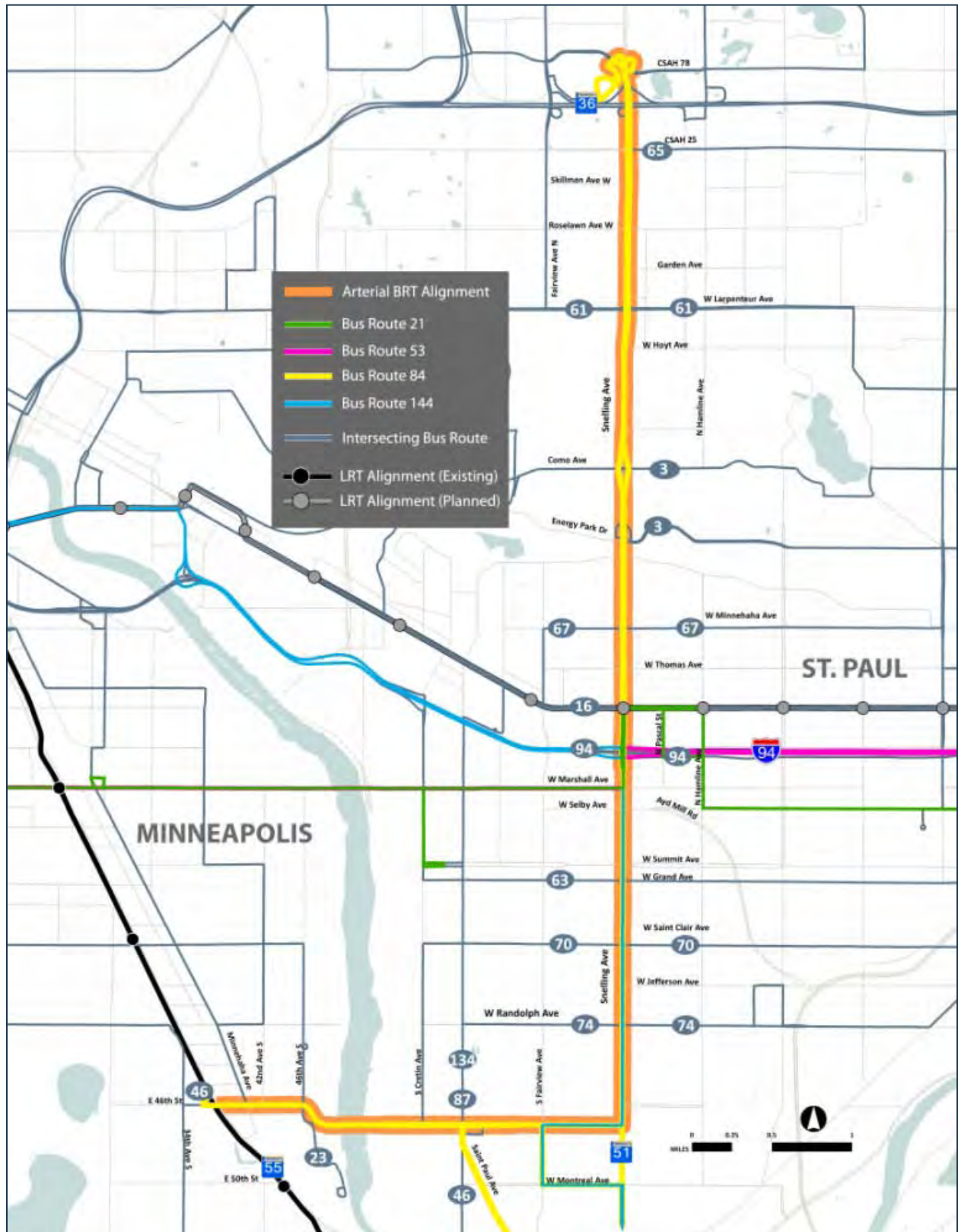
From the Rosedale Transit Center, all Route 84 buses travel south on Snelling Avenue to Ford Parkway. At Ford Parkway and Cleveland Avenue, the route generally splits into two patterns. One pattern continues to the 46th Street LRT Station on the Hiawatha Line. The other pattern follows Cleveland Avenue and St. Paul Avenue to Davern Street and Shepard Road. The route pattern to/from the 46th Street LRT Station includes a deviation to Montreal Avenue (south of Ford Parkway) during the day. The portion of Route 84 north of Ford Parkway is part of Metro Transit's Hi-Frequency Network.

Route 84's alignment alternates through commercial and single-family residential areas with a significant presence of educational institutions along Snelling Avenue. Major destinations along Route 84 include Rosedale Mall, Har Mar Mall, the University of Minnesota's St. Paul Campus, HHH Job Corps, the Minnesota State Fairgrounds, Hamline University, Midway Shopping Center, Macalester College, Cretin-Derham Hall High School, Sibley Plaza, Highland Village, and the Ford Plant.

Route 84 connects with many other routes at the following locations:

- Rosedale Transit Center – Routes 32, 65, 87, 223, 225, 227, 260, 272, 801
- Snelling Avenue/County Road B – Route 65
- Snelling Avenue/Larpenteur Avenue – Route 61
- Snelling Avenue/Como Avenue – Route 3
- Snelling Avenue/Energy Park Drive – Route 3
- Snelling Avenue/Minnehaha Avenue – Route 67
- Snelling Avenue/University Avenue – Routes 16, 21, 50
- Snelling Avenue/I-94 – Routes 53, 94, 144
- Snelling Avenue/Marshall Avenue – Routes 21, 53
- Snelling Avenue/Grand Avenue – Route 63
- Snelling Avenue/St. Clair Avenue – Route 70
- Snelling Avenue/Randolph Avenue – Route 74
- St. Paul Avenue/West 7th Street – Route 54
- St. Paul Avenue/Edgcumbe Road – Route 46
- Ford Parkway/St. Paul Avenue – Routes 23, 46, 70, 74, 87, 134
- Ford Parkway/Cretin Avenue – Route 70
- 46th Street/46th Avenue – Route 23
- 46th Street Station – Routes 7, 9, 46, 55, 74; MVTA 436, 446

Figure 3. Snelling Avenue Corridor– Route 84 and Connecting Services



Other routes that operate on portions of the proposed Snelling Avenue corridor are as follows:

- Route 21 operates on Snelling Avenue between Marshall Avenue and University Avenue.
- Route 53 operates on Snelling Avenue between I-94 and Marshall Avenue.
- Route 144 operates on Snelling Avenue between I-94 and Ford Parkway, and continues onto downtown Minneapolis via I-94.

### Service Characteristics and Route Performance

Pertinent Route 84 characteristics, resources, and statistics are noted in Table 9. Daily service statistics are from Metro Transit's September 2010 System Statistics.

**Table 9. Route 84 Service Characteristics, September 2010<sup>5</sup>**

Route 84	Weekday	Saturday	Sunday
<b>Route Characteristics</b>			
Hours of Operation	5:13 a.m.-12:55 a.m.	4:51 a.m.-1:02 a.m.	4:53 a.m.-1:08 a.m.
Frequency (Pk-Mid-Eve)	15-15-15	15-15-30	30-30-30
Trips (one-way)	143	123	64
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	93.7	75.0	36.4
Recovery	27.6	22.5	11.4
Deadhead	<u>11.2</u>	<u>7.8</u>	<u>4.1</u>
Total (Platform)	132.6	105.3	51.9
<b>Daily Miles</b>			
In Service	1502.1	1251.1	628.1
Deadhead	<u>299.3</u>	<u>225.8</u>	<u>122.2</u>
Total	1801.3	1476.9	750.3
<b>Bus Requirements</b>			
AM	7	6	2
Midday	8	7	3
PM	8	7	3
Night	5	3	2

Key route-level performance indicators are shown in Table 10 for 2009. Figures are from Metro Transit's 2009 Regional Performance Report.

<sup>5</sup> *In-service* refers to the time/distance a bus spends in revenue service (picking up passengers). *Recovery* is the time a driver/bus spends at the end of the line before beginning the next run. *Deadhead* refers to the time/distance spent traveling between the garage and the beginning of in-service operations.

**Table 10. Route 84 Performance, 2009 Annual Totals**

	Weekday	Saturday	Sunday	Total
In-service miles	383,738	63,919	36,507	<b>484,164</b>
In-service hours	23,760	3,830	2,114	<b>29,704</b>
In-service speed (miles per hour)	16.2	16.7	17.3	<b>16.3</b>
Operating cost	\$3,631,317	\$575,386	\$321,565	<b>\$4,528,268</b>
Fare revenue	\$777,738	\$131,793	\$79,578	<b>\$989,108</b>
Passengers	914,411	159,384	92,530	<b>1,166,325</b>
Average daily passengers	3,583	3,065	1,682	--
Average fare per passenger	\$0.85	\$0.83	\$0.86	<b>\$0.85</b>
Total subsidy	\$2,853,579	\$443,593	\$241,987	<b>\$3,539,159</b>
Subsidy per passenger	\$3.12	\$2.78	\$2.62	<b>\$2.84</b>
Passengers per in-service hour	38.48	41.62	43.77	<b>41.29</b>
Passengers per in-service mile	2.38	2.49	2.53	<b>2.41</b>
Farebox recovery ratio	21.4%	22.9%	24.7%	<b>21.8%</b>

### On-Time Performance

In October 2010, Route 84 was on-time 90.7 percent of the time on weekdays. 8.5 percent of all weekday timepoint departures were late while only 0.8 percent were recorded as early. Thus, Route 84's on-time performance was 3.0 percentage points better than the systemwide average. The southbound direction performed better than the northbound direction. Table 11 depicts Route 84's weekday on-time performance as it compares to the systemwide average.

**Table 11. Route 84 On-Time Performance, October 2010**

	On Time	Late	Early
<b>Route 84</b>	90.7	8.5	0.8
<i>Northbound</i>	89.9	9.2	0.9
<i>Southbound</i>	91.4	7.9	0.7
<b>Systemwide</b>	87.7	9.8	2.5

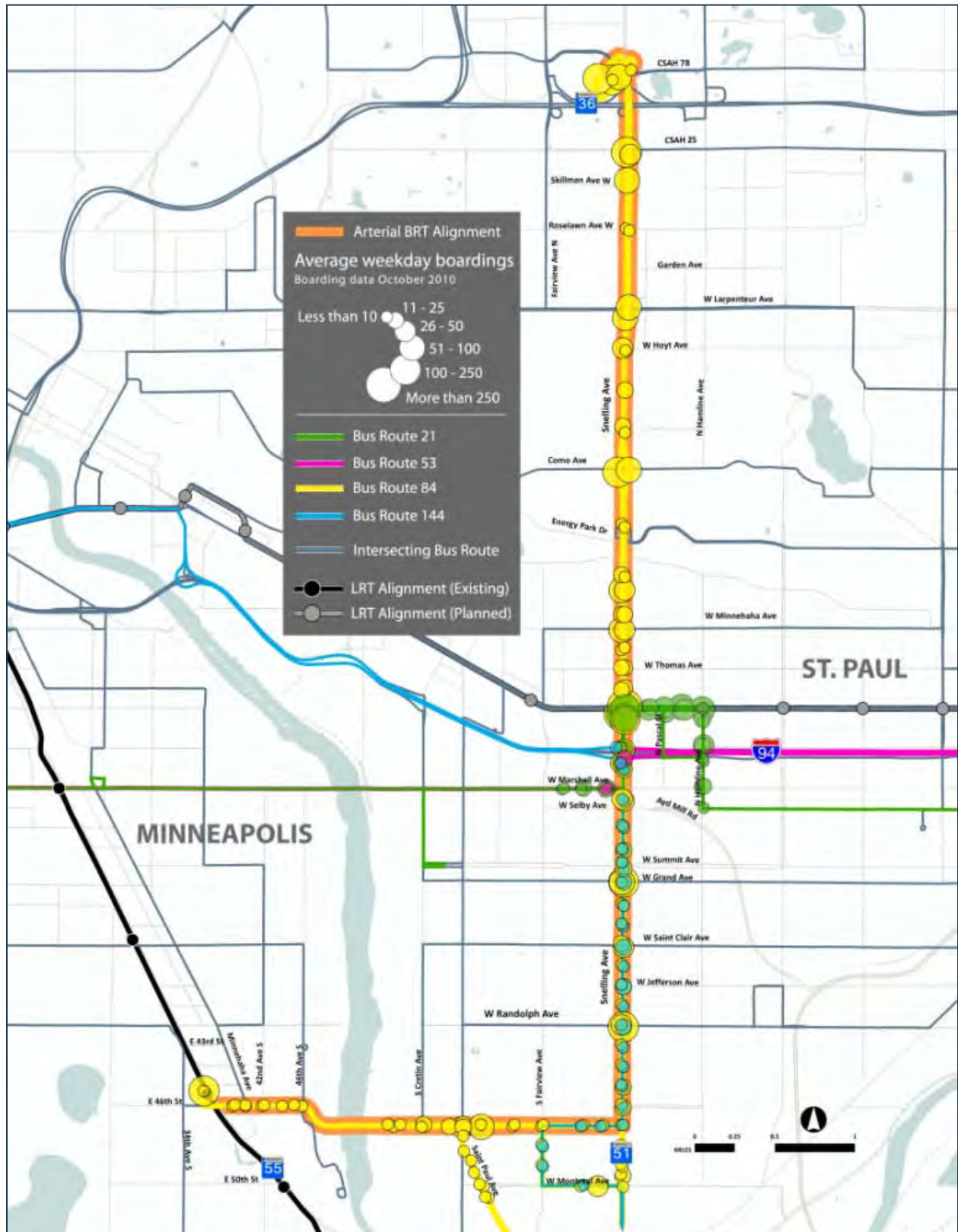
### Stop-Level Ridership

Estimated Route 84 average daily ridership is as follows (October 2010 Automated Passenger Counter [APC] data):

- Weekdays: 3,944
- Saturdays: 3,610
- Sundays: 1,807

About 3,655 of the 3,944 weekday boardings on Route 84 are along the proposed Snelling Avenue corridor alignment. About 47 percent of the boardings are north of University Avenue, 40 percent are between University Avenue and Ford Parkway, and 13 percent are located along Ford Parkway. Route 144 also operates on a portion of Snelling Avenue (from Ford Parkway to I-94). There were 113 average weekday boardings along this segment. Total average weekday boardings along the proposed Snelling Avenue corridor alignment on Routes 84 and 144 are about 3,800. Figure 4 illustrates weekday boardings by stop for Routes 84, 144, as well as the portions of Routes 21 and 53 that operate in the vicinity of the corridor.

Figure 4. Snelling Avenue Corridor Weekday Ridership by Stop, October 2010



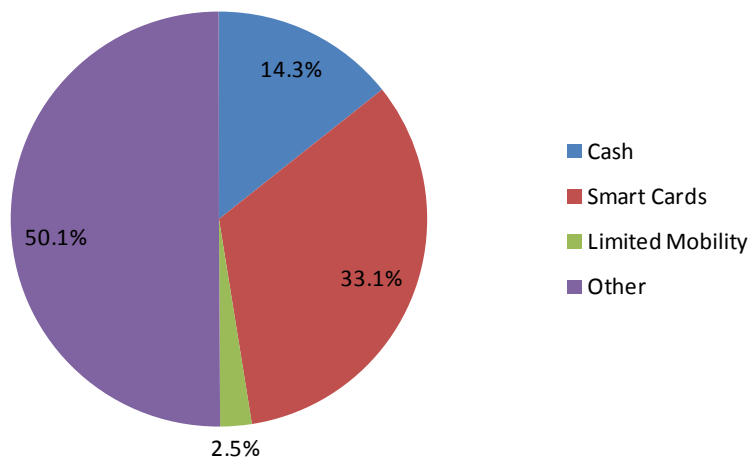
### Ridership by Fare Type/Media

For purposes of isolating fare categories with similar delay characteristics, fare payment methods are aggregated into the following categories:

- Cash
- Limited Mobility (both Farebox and Smartcard)
- Smartcard (GoTo passes, stored value, U-Pass and College Pass, not including Limited Mobility)
- Other (includes transfers and other pass payments through the farebox, tokens, and passengers who do not pay)

Figure 5 illustrates October 2010 ridership by fare type for Route 84.

**Figure 5. Route 84 Ridership by Fare Category, October 2010**



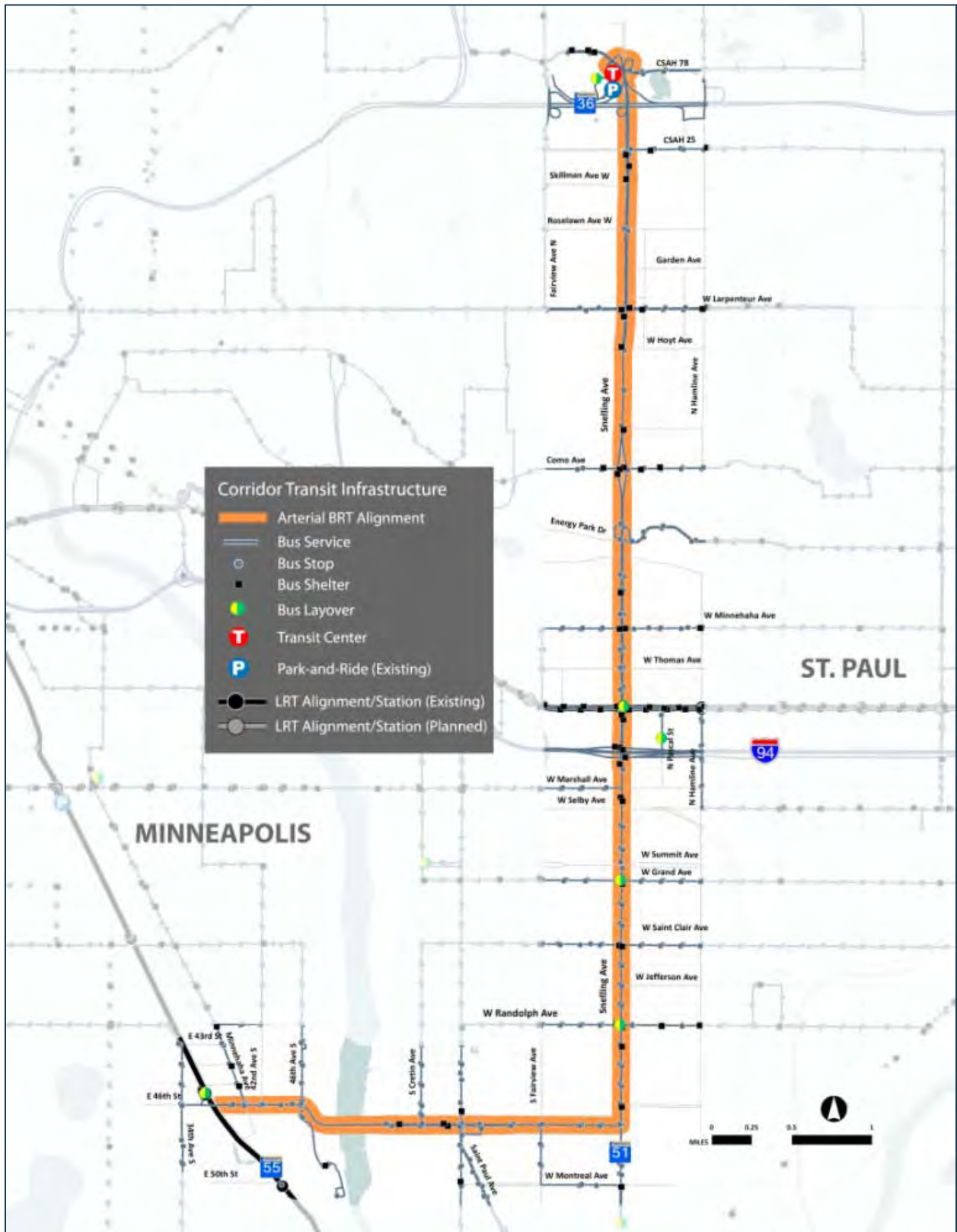
The data is based on October 2010 fare payment data provided by Metro Transit. Smartcard usage is about 33 percent of total boardings, which is a little above the typical average for Urban Local routes. Limited mobility boardings (both farebox and Smartcard) were 2.5 percent of total boardings. Cash boardings were 14.3 percent.

### Transit Infrastructure

Existing transit infrastructure in the Snelling Avenue corridor is shown in Figure 6.

- Bus stops are spaced at approximately ½-mile intervals north of Minnehaha Avenue, and at ¼-mile intervals south of Minnehaha Avenue.
- Passenger waiting shelters are generally located at major transfer points on Snelling Avenue and Ford Parkway, with some additional shelters throughout the corridor.
- Existing layovers are located at both corridor termini, at Rosedale Transit Center and 46th Street Station.
- An existing park-and-ride is located at Rosedale Transit Center.
- Bus-only shoulder lanes are located on Snelling Avenue in both directions from Hoyt Avenue to County Road B and from Pierce Butler Route to Como Avenue.

Figure 6. Snelling Avenue Corridor Existing Transit Infrastructure



## Planned Land Use Changes

### City of Roseville (Pat Trudgeon)

The City's 2030 Comprehensive Plan contains transportation policies that recommend supporting the Rosedale Transit Hub and the Snelling Avenue Transit Corridor for future transit investments. The Plan further recommends: "Encourage transit-supportive development along existing and future transit corridors" and "Play an active role in planning for potential transitways and preserving potential rights-of-way and station locations." The Comprehensive Plan includes a section on TOD and assesses transit compatibility within different roadways and notes the difficulty of redesigning the intersection of Snelling Avenue at County Road B to promote more transit use.

The Comprehensive Plan, however, did not recommend any land use changes to the properties on the developed corridor. There are no vacant parcels on the Snelling Avenue corridor in Roseville. There is mixed use zoning on the corridor. The largest parcel that could be redeveloped is the Har Mar Mall site, but no redevelopment is expected there in the near future. Currently, the former Har Mar Apartments on the corridor are being rehabilitated and a 50-unit multi-family building will soon be added to the development. The units will be continue to be leased with affordable rents, so many residents may use nearby transit.

Mr. Trudgeon does not expect any significant decreases in employment. There is a new Target store and many office buildings on the corridor are occupied by state employees, so those jobs are expected to remain. The Twin Lakes redevelopment area is a mile west of the corridor, but it may have a long term impact on redevelopment and stimulate redevelopment that could impact employment levels and residential density within the transit shed. The City of Roseville doesn't own any parcels on the corridor and the City has not completed any small area plans that are applicable to the corridor.

There are some other factors that impact transit ridership or access in the Corridor. The City is attempting to complete more trail connections within the corridor, such as up at County Road C. The Rosedale Mall is not renewing the lease for the on-site park-and-ride lot when the existing lease expires in 2012. The Roseville Mall transit hub, served by five regular bus routes, will remain. The reconstruction of County Road B in 2013 could cause some disruption of vehicular operations.

### City of St. Paul (Planners Merritt Clapp-Smith and Christina Morrison)

The Snelling Avenue corridor, like nearly all the other St. Paul corridors in this study, is designated as a mixed-use corridor in the Comprehensive Plan. A number of strong amenities and institutions are located along this corridor, along with some stretches of primarily residential development. The Ford Parkway portion of the corridor, from the river to Fairview Avenue, has the highest existing density and strong market potential, although it is not likely to increase substantially in intensity. The intersection with the Central Corridor at University Avenue is also a huge redevelopment opportunity, with potential for the city's highest density development outside of the downtown.

The Ford Plant redevelopment opportunity is potentially an enormous change in land use and density/intensity. Redevelopment concepts range from those that would dramatically reduce intensity



(a golf course) to very high density and job intensity scenarios. The 2007 redevelopment study analyzed five distinct proposals from industrial reuse to a high density urban transit village. Job creation under a build-out of these scenarios ranged from 1,600 to over 3,000. New housing units numbered as many as 1,350. The nearby neighborhoods are well organized and vocal, and traffic generation is a major issue with redevelopment at the Ford site and all proposals along Marshall Avenue. An interesting note is the railroad spur that runs from the West 7th Street corridor to the Ford site that is almost certainly to be vacated. Development concepts have noted that this corridor could include a dedicated busway that might eventually connect to the Hiawatha LRT on 46th Street in Minneapolis.

Three college/university institutions (St. Catherine, Macalester, St. Thomas) are located on or near the Snelling Avenue corridor south of I-94. These institutions are likely to create stable demand for slowly higher density housing and stable or increasing demand for transit investment. The residential areas are stable and not likely to see significant redevelopment.

The Snelling/Selby node is a strong commercial area and has been gaining attention within the market. The sites are, however, shallow and are not consolidated. While market demand is strong, other barriers may prevent significant intensification or much higher density, other than incremental increases over time.

The intersection with the Central Corridor at University Avenue is an enormous growth opportunity. Effective June 2011, the Snelling and University area will be rezoned to the city's highest density zoning district (T4) that allows buildings with high-rise density (over ten stories). Many lots are large or have been consolidated, public support is strong, and demand for office, retail, and housing is likely to be quite large based on the market studies. Jobs will continue to be commercial and service with some potential for housing development, but increased office and retail density is the largest likely change.

Another educational institution, Hamline University, is north of the Central Corridor on Snelling. This area is also likely to see continue densification (existing RM2 zoning would allow more density) and transit demand, although no large changes are anticipated. Lots are shallow and abut stable residential areas. The Energy Park Drive corridor just to the north of Hamline is a potentially important connection.

### **City of Minneapolis (Sector Planner Paul Mogush)**

General Growth Patterns would occur around the following comprehensive plan land use features:

- Transit Station Area: 46th Street
- Activity Center: 46th Street LRT Station

The end of the Snelling Avenue corridor lies at the 46th Street LRT Station. The ongoing, planned, and anticipated growth at this station is substantial. Original market projections associated with the LRT station have been exceeded and near-term additions of 700 plus housing units point towards continued densification. Some job growth is also anticipated, although it will continue to be focused on services and retail. The City has proposed reconstruction of 46th Street between Hiawatha and Snelling avenues.

## Lake Street

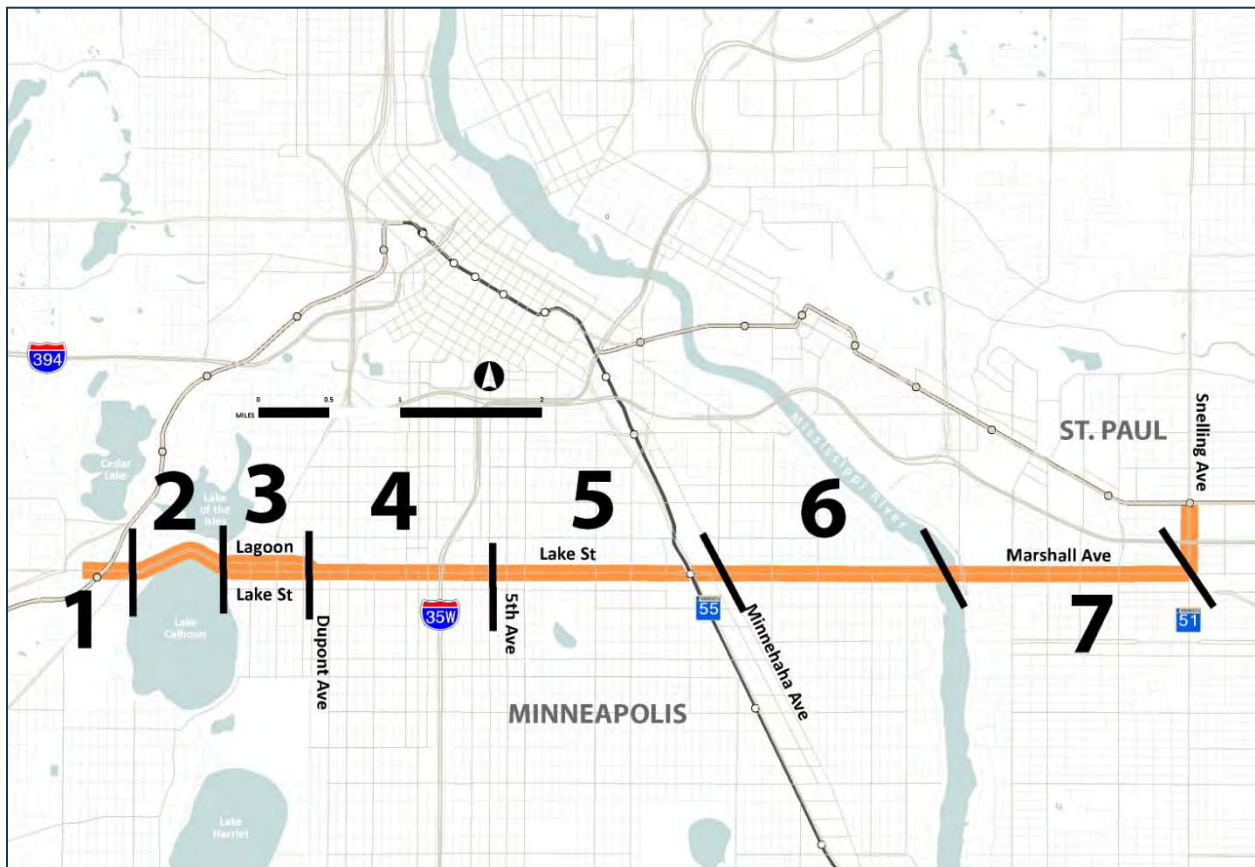
### Roadway Conditions

Roadway information was requested from the cities of Minneapolis and St. Paul for the Lake Street corridor. Existing conditions information is summarized by the following segments in Table 12.

- Segment 1: Lake Street (France Avenue to Excelsior Boulevard)
- Segment 2: Lake Street (Excelsior Boulevard to Lagoon Avenue)
- Segment 3: Lagoon Avenue (Calhoun Parkway to Dupont Avenue)
- Segment 4: Lake Street (Dupont Avenue to 5th Avenue)
- Segment 5: Lake Street (5th Avenue to Minnehaha Avenue)
- Segment 6: Lake Street (Minnehaha Avenue to Mississippi River)
- Segment 7: Marshall Avenue (Mississippi River to Snelling Avenue)

A small portion of the corridor is located on Snelling Avenue between Marshall and University. Figure 7 is a map of the Lake Street corridor.

**Figure 7. Lake Street Corridor**



**Table 12. Lake Street Roadway Characteristics**

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
1	26,200-29,200	29,500-32,900	Signalized intersections		2 lanes/direction; divided roadway		Yes	No	No	Yes	None identified.
2	37,613	38,800	Signalized intersections		3 lanes/direction; divided roadway		Yes	No	No	Yes	None identified.
3	9,591-16,906	23,300	Signalized intersections	60' between Calhoun Parkway and Hennepin Avenue; 66' in rest of segment	3 lanes	12	Yes	Yes. Off-peak parking allowed on side of street without permanent parking lane.	No	Yes	None identified.
4	15,824-20,092	25,400-26,600	Signalized intersections	80	2 lanes/direction	10.8-17	Yes	Yes	No	Yes	Reconstruction of 5th Avenue to Blaisdell Avenue; Lake Street BRT station at I-35W ;30% design for BRT station and full access to Lake Street; Potential Streetcar in Midtown Corridor; Reopening of Nicollet Avenue at Lake Street supported by city plans.

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
5	15,762-22,448	23,000-26,800	Signalized intersections	80	2 lanes/direction	10.8-17	Yes- turn lanes at selected intersections eliminates parking lane.	Yes	No	Yes	None identified.
6	11,115-14,313	14,800-17,000	Signalized intersections	100	2 lanes/direction	11	Yes- turn lanes at selected intersections eliminates parking lane	Yes	Yes; Marshall from river to Fry	Yes	None identified.
7	12,575-19,950	15,200-21,800	Signalized intersections		1 lane/direction	12	Yes	Yes		Yes	Mill and overlay in 2011. Project may be delayed to see if additional amenities could be added, such as bike lanes.

Signalized intersections in the corridor are at the following locations (listed from west to east):

- |   |   |  |
|---|---|--|
| <p>Minneapolis</p> <ul style="list-style-type: none"> <li>• Lake at France</li> <li>• Lake at Drew</li> <li>• Lake at Market Plaza</li> <li>• Lake at Excelsior Blvd</li> <li>• Lake at Dean Pkwy</li> <li>• Lake at Thomas</li> <li>• Lake at Calhoun Pkwy (EB)</li> <li>• Lagoon at Calhoun Pkwy (WB)</li> <li>• Lake at Irving (EB)</li> <li>• Lake at Humboldt (EB)</li> <li>• Lagoon at Humboldt (WB)</li> <li>• Lake at Hennepin (EB)</li> <li>• Hennepin at Lagoon (WB)</li> <li>• Lake at Girard (EB)</li> <li>• Lagoon at Girard (WB)</li> <li>• Lake at Emerson (EB)</li> <li>• Lagoon at Emerson (WB)</li> <li>• Lake at Dupont</li> <li>• Lake at Bryant</li> <li>• Lake at Grand</li> <li>• Lake at Blaisdell</li> <li>• Lake at 1st Ave</li> <li>• Lake at Stevens</li> <li>• Lake at 2nd Ave</li> <li>• Lake at 3rd Ave</li> <li>• Lake at 4th Ave</li> <li>• Lake at Portland</li> <li>• Lake at Park</li> <li>• Lake at Chicago</li> <li>• Lake at Elliot</li> <li>• Lake at 10th Ave</li> </ul> | <ul style="list-style-type: none"> <li>• Lake at 11th Ave</li> <li>• Lake at 13th Ave</li> <li>• Lake at Bloomington</li> <li>• Lake at 17th Ave</li> <li>• Lake at Cedar</li> <li>• Lake at 21st Ave</li> <li>• Lake at 22nd Ave</li> <li>• Lake at Hiawatha</li> <li>• Lake at Snelling</li> <li>• Lake at Minnehaha</li> <li>• Lake at 27th Ave</li> <li>• Lake at 28th Ave</li> <li>• Lake at 31st Ave</li> <li>• Lake at 33rd Ave</li> <li>• Lake at 36th Ave</li> <li>• Lake at 39th Ave</li> <li>• Lake at 42nd Ave</li> <li>• Lake at 44th Ave</li> <li>• Lake at River Pkwy</li> </ul> | <p>Saint Paul</p> <ul style="list-style-type: none"> <li>• Marshall Ave at Otis</li> <li>• Marshall Ave at Cretin</li> <li>• Marshall Ave at Cleveland</li> <li>• Marshall Ave at Prior</li> <li>• Marshall Ave at Fairview</li> <li>• Snelling Ave at Marshall Ave</li> <li>• Snelling Ave at University</li> <li>• Snelling Ave at Spruce Tree Dr</li> <li>• Snelling Ave at Saint Anthony</li> <li>• Snelling Ave at Concordia</li> </ul> |
|---|---|--|

## Existing Transit Conditions – Routes 21/53

The proposed Lake Street corridor begins west of Lake Street and Excelsior Boulevard at the West Lake Station on the planned Southwest LRT line. This corridor follows Lake Street and Marshall Avenue to Snelling Avenue, and then follows Snelling to University Avenue and the Midway Shopping Center. This corridor connects the proposed Southwest LRT line, the existing Hiawatha Line, and the Central Corridor line that is presently under construction. Routes 21 and 53 are the primary Metro Transit routes in this corridor. The corridor alignment and existing transit services are shown in Figure 8.

**Route 21** begins at the Uptown Transit Station at Lake and Hennepin and follows Lake Street/Marshall Avenue to Snelling Avenue. The route turns north to the Midway Shopping Center at Snelling and University, and then follows Hamline and Selby into downtown St. Paul. The following three route patterns operate on weekdays:

- 21A operates the full alignment to downtown St. Paul
- 21D turns back at Summit and Finn (University of St. Thomas)
- 21E turns back at Transitway and 27th Avenue (just past Lake Street LRT Station)

Combined frequencies are generally 6 to 10 minutes throughout the weekday. Service frequencies east of Summit and Finn are generally 15 to 20 minutes. Route 21 is part of Metro Transit's Hi-Frequency Network between the Uptown Transit Station and Cretin Avenue. Saturday frequencies along the trunk portion of Route 21 are generally 6 to 10 minutes. Sunday frequencies are 6 to 15 minutes.

Within the limits of the proposed Lake Street corridor, Route 21's alignment serves the Uptown Transit Station (located on Hennepin Avenue, on the bridge over the Midtown Greenway), the Uptown commercial district, Calhoun Square, K-Mart at Nicollet Avenue, the I-35W/Lake Street stop, the Chicago/Lake Transit Center and Midtown Exchange (east of Chicago Avenue), South High School, Hi-Lake Shopping Center, the Lake Street/Midtown Station on the Hiawatha LRT line, Minnehaha Mall (Super Target and Cub Foods) and Rainbow Foods. The corridor transitions from commercial to residential east of Minnehaha Avenue, and the street name changes to Marshall Avenue as the road crosses the Mississippi River into St. Paul.

Route transfer opportunities to and from Route 21 within the defined Lake Street corridor are as follows:

- Uptown Transit Station – Routes 6, 12, 17, 23, 53, 114, 115
- Lyndale – Route 4
- Nicollet Avenue – Route 18
- I-35W and Lake Street – Multiple routes
- 4th Avenue – Route 11
- Chicago Avenue – Route 5
- Chicago Lake Transit Center – Routes 5, 39, 53
- Bloomington Avenue – Route 14
- Cedar Avenue – Routes 22, 27, 111

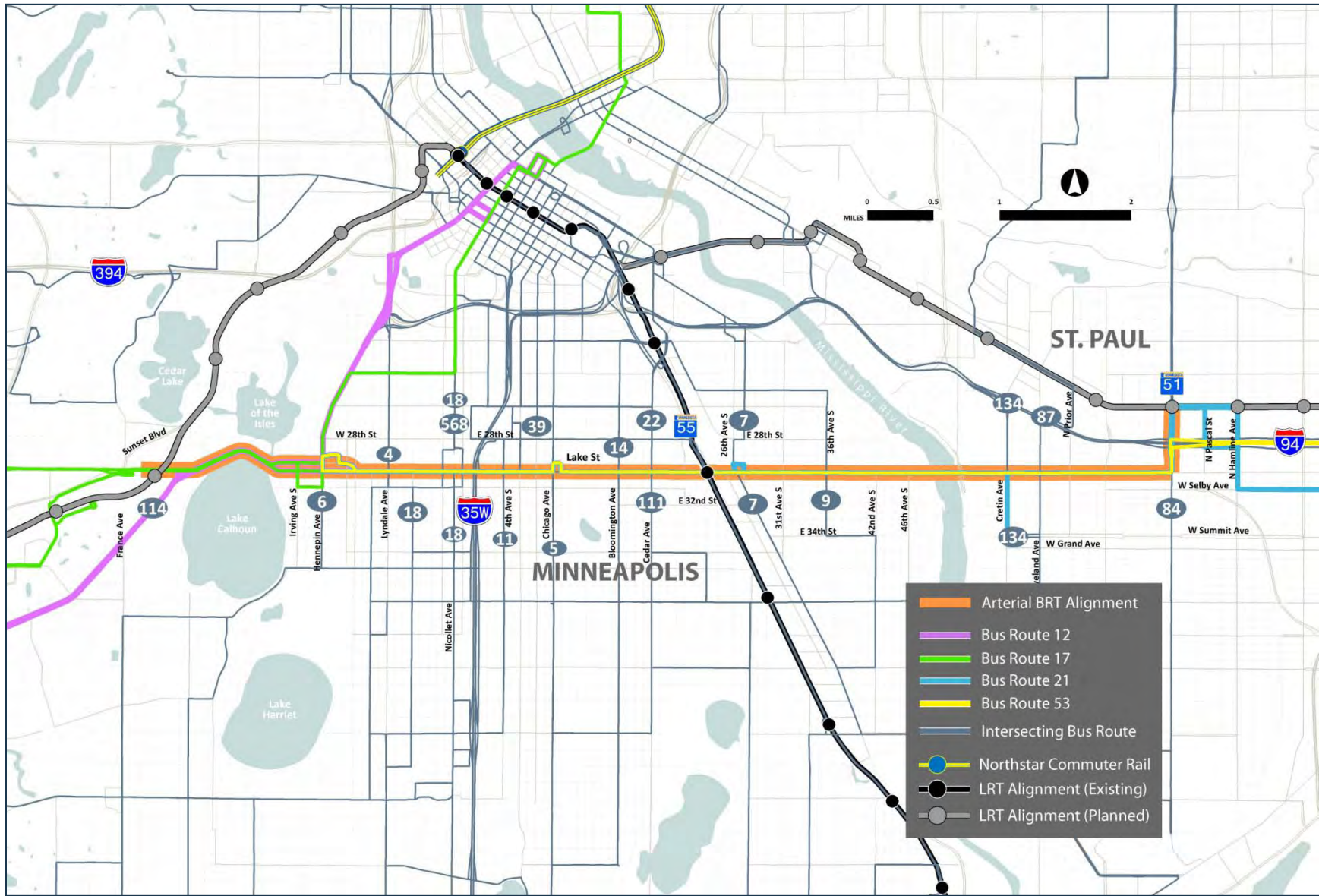
- Lake Street/Midtown Station – Routes 7, 27, 53, 55 (Hiawatha LRT)
- Minnehaha Avenue – Route 7
- Cretin Avenue – Route 134
- Cleveland Avenue – Route 87
- Snelling Avenue – Routes 53, 84, 144

**Route 53** begins at the Uptown Transit Station at Lake and Hennepin and follows Lake Street and Marshall Avenue to Snelling Avenue and the Midway Shopping Center at Snelling and University. Route 53 service then continues to downtown St. Paul. Limited stops in the eastbound direction are at the following locations:

- Uptown Transit Station
- Lake/Girard
- Lake/Lyndale
- Lake/Nicollet
- Lake/1st Avenue
- Lake/I-35W
- Lake/4th Avenue
- Chicago Lake Transit Center
- Lake/Bloomington
- Lake/Cedar
- Lake/Midtown Station (Hiawatha Avenue)
- Lake/Target Entrance
- Lake/36th Avenue
- Lake/44th Avenue
- Marshall/Otis
- Marshall/Cretin
- Marshall/Cleveland
- Marshall/Fairview
- Marshall/Fry
- Concordia/Snelling

Service frequencies are generally 20 to 30 minutes. Route 53 operates in the peak periods only. Transfer opportunities to and from Route 53 within the defined Lake Street corridor are the same as those noted for Route 21. Three other routes operate on a portion of the proposed Lake Street corridor; routes 12, 17 (urban local) and 114 (limited stop to U of M, not shown in Figure 8) operate on Lake Street between Excelsior Boulevard and Hennepin Avenue.

Figure 8. Lake Street Corridor Routes and Connecting Services





### Service Characteristics and Route Performance

Pertinent Route 21 and 53 characteristics, resources, and statistics are noted in Table 13. Daily service statistics are from Metro Transit's September 2010 System Statistics.

**Table 13. Routes 21 and 53 Service Characteristics, September 2010**

<b>Route 21</b>	<b>Weekday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>Route Characteristics</b>			
Hours of Operation	4:02 a.m.-2:16 a.m.	3:54 a.m.-2:10 a.m.	4:05 a.m.-2:11 a.m.
Frequency (Pk-Mid-Eve)	AM 14/PM 8-10-15	EB: AM 11/PM 7-7-15 WB: AM 15/PM 7-7-10	AM 30-10-13
Trips (one-way)	246	267	186
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	219.1	211.8	144.6
Recovery	50.7	54.1	43.0
Deadhead	<u>11.5</u>	<u>9.3</u>	<u>7.6</u>
Total (Platform)	281.4	275.2	195.3
<b>Daily Miles</b>			
In Service	2183.5	2142.2	1562.6
Deadhead	<u>195.5</u>	<u>158.7</u>	<u>110.5</u>
Total	2379.0	2300.9	1673.1
<b>Bus Requirements</b>			
AM	14	13	9
Midday	18	19	13
PM	18	18	13
Night	9	10	8
<b>Route 53</b>	<b>Weekday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>Route Characteristics</b>			
Hours of Operation	6:04 a.m.-7:29 p.m.	n/a	n/a
Frequency (Pk-Mid-Eve)	EB: AM 30/PM 30 WB: AM 45/PM 30		
Trips (one-way)	30		
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	26.8	n/a	n/a
Recovery	6.0		
Deadhead	<u>2.4</u>		
Total (Platform)	35.2		
<b>Daily Miles</b>			
In Service	354.9	n/a	n/a
Deadhead	<u>47.8</u>		
Total	402.6		
<b>Bus Requirements</b>			
AM	5		
Midday	0	n/a	n/a
PM	6		
Night	0		

Key route-level performance indicators are shown in Table 14 for 2009. Figures are from Metro Transit's 2009 Regional Performance Report.

**Table 14. Routes 21 and 53 Performance, 2009 Annual Totals**

	Route 21 Weekday	Route 21 Saturday	Route 21 Sunday	Route 21 Total	Route 53 Weekday
In-service miles	558,413	109,337	90,696	<b>758,446</b>	89,900
In-service hours	55,956	10,800	8,387	<b>75,143</b>	6,787
In-service speed (miles per hour)	10.0	10.1	10.8	<b>10.1</b>	13.2
Operating cost	\$7,715,777	\$1,507,762	\$1,216,832	<b>\$10,440,372</b>	\$961,089
Fare revenue	\$2,435,367	\$367,053	\$294,598	<b>\$3,097,018</b>	\$318,417
Passengers	3,285,917	557,922	422,396	<b>4,266,235</b>	269,690
Average daily passengers	12,886	10,729	7,680	--	1,058
Average fare per passenger	\$0.74	\$0.66	\$0.70	<b>\$0.70</b>	\$1.18
Total subsidy	\$5,280,410	\$1,140,709	\$922,234	<b>\$7,343,353</b>	\$642,672
Subsidy per passenger	\$1.61	\$2.04	\$2.18	<b>\$1.94</b>	\$2.38
Passengers per in-service hour	58.72	51.66	50.36	<b>53.58</b>	39.74
Passengers per in-service mile	5.88	5.10	4.66	<b>5.62</b>	3.00
Farebox recovery ratio	31.6%	24.3%	24.2%	<b>29.7%</b>	33.1%

Route 21 has the third-highest average daily ridership of all Metro Transit routes. Route 21's subsidy per passenger is 54 percent lower than the Metro Transit urban local average passenger subsidy of \$3.49. It serves considerably more passengers per hour than the average urban local route but collects a lower average fare per passenger. Route 53 also has a lower per-passenger subsidy than the average urban local route, and has route productivity near the urban local average.

### On-Time Performance

Metro Transit defines "on-time" as departing between one minute early and five minutes late. The systemwide on-time performance goal was 88 percent in October 2010. Table 15 depicts weekday on-time performance for routes 21 and 53 as it compares to the systemwide average.

**Table 15. Routes 21 and 53 On-Time Performance, October 2010**

	On Time	Late	Early
<b>Route 21</b>	86.1	12.7	1.2
<i>Eastbound</i>	88.9	9.8	1.3
<i>Westbound</i>	83.2	15.7	1.1
<b>Route 53</b>	88.4	10.8	0.8
<i>Eastbound</i>	91.8	7.5	0.7
<i>Westbound</i>	84.1	15.0	0.9
<b>Systemwide</b>	87.7	9.8	2.5

In October 2010, Route 21 was on-time 86.1 percent of the time on weekdays. 12.7 percent of all weekday departures were late while 1.2 percent were recorded as early. Thus, Route 21's on-time performance was 1.6 percentage points worse than the systemwide average. The eastbound direction performed better than the westbound direction. Route 53 was on-time 88.4 percent of the time on weekdays. 10.8 percent of all weekday departures were late while only 0.8 percent were recorded as early. Thus, Route 53's on-time performance was 0.7 percentage points better than the systemwide average. The eastbound direction performed considerably better than the westbound direction.

Systemwide on-time performance on Saturdays fared slightly poorer than weekdays with 85.0 percent of all trips departing on time, 12.8 percent departing late and 2.2 percent departing early. Route 21 also performed slightly worse on Saturdays with 84.9 percent of all trips departing on time (14.2 percent late, 0.8 percent early). Systemwide on-time performance on Sundays was better than Saturdays and nearly identical to weekdays with 87.6 percent of all trips departing on time, 10.3 percent departing late and 2.0 percent departing early. On Sundays, Route 21 performed similar to Saturdays with 85.7 percent of all trips departing on time (13.0 percent late, 1.3 percent early).

### Stop-Level Ridership

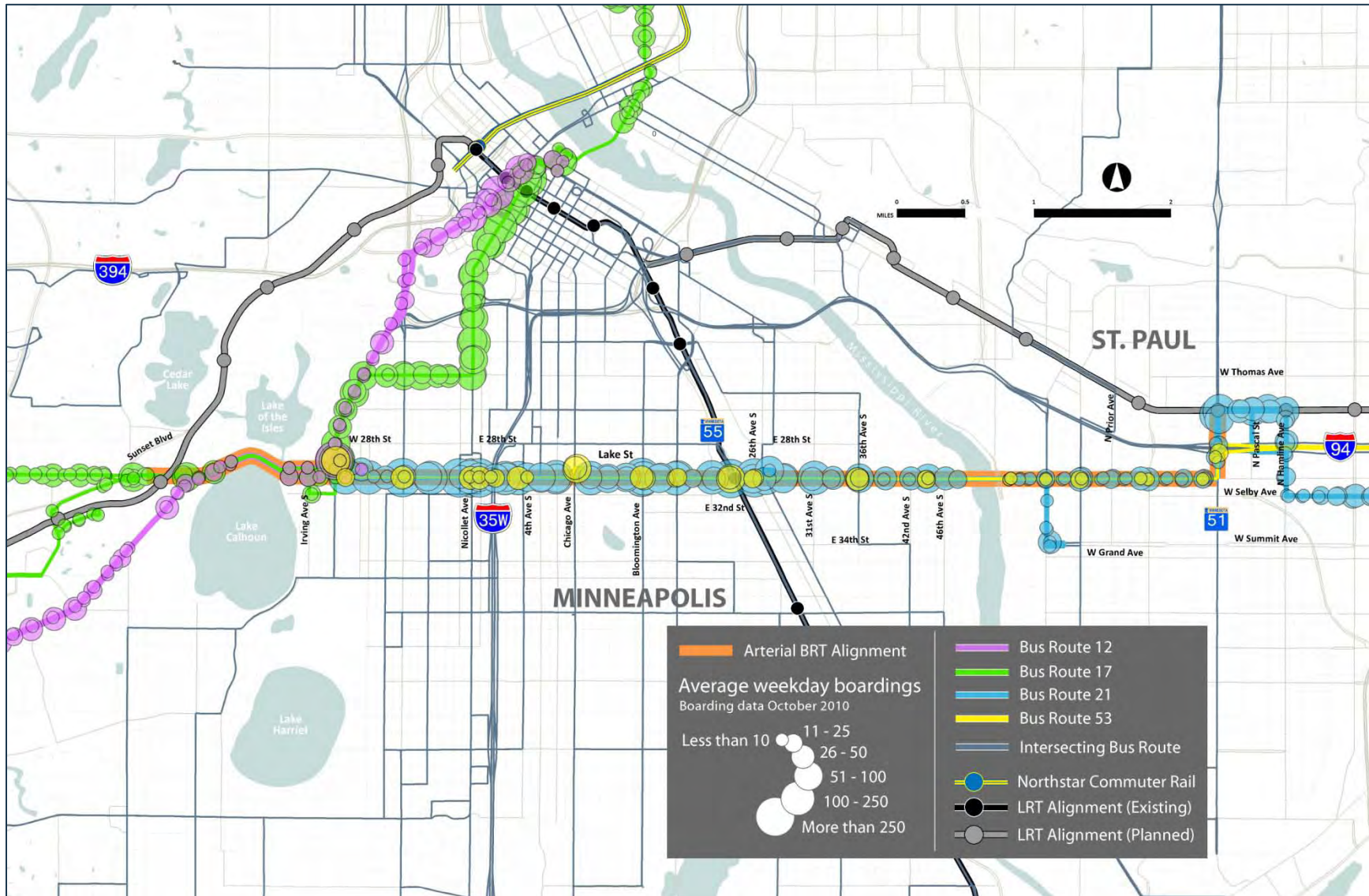
Current Route 21 and Route 53 average daily ridership (October 2010 APC data) is as follows:

- Route 21 Weekdays: 12,126
- Route 53 Weekdays: 1,107
- Route 21 Saturdays: 11,234
- Route 21 Sundays: 6,922

About 8,974 of the 12,126 weekday boardings (74 percent) on Route 21 occur west of the Midway Center at Snelling and University. About 7,353 of these 8,974 boardings occur west of the Lake Street/Midtown Hiawatha LRT Station. Also within the defined corridor, 774 of Route 53's 1,107 boardings occur west of the Midway Center. There are also 200 boardings within the corridor on Route 17 and 75 boardings on Route 12. Thus, approximately 10,000 total weekday boardings occur along the proposed Lake Street corridor on Routes 21, 53, 12, and 17 combined.

Figure 9 illustrates weekday ridership boardings by stop for Routes 21 and 53, and for Routes 12 and 17, which operate on the western portion of the proposed corridor.

Figure 9. Lake Street Corridor Weekday Ridership by Stop, October 2010



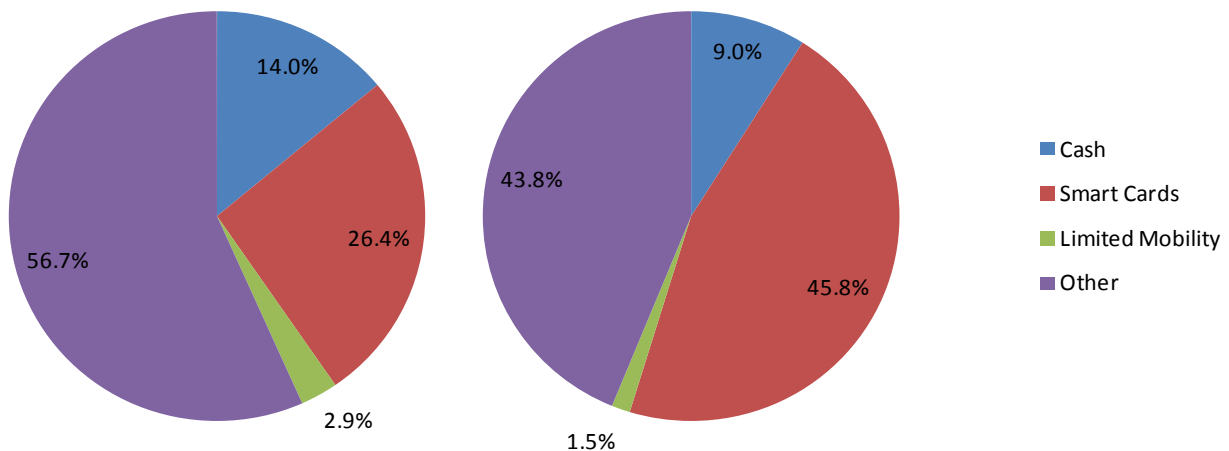
### Ridership by Fare Type

For purposes of isolating fare categories with similar delay characteristics, fare payment methods are aggregated into the following categories:

- Cash
- Limited Mobility (both Farebox and Smartcard)
- Smartcard (not including Limited Mobility)
- Other (includes transfers and other pass payments through the farebox, tokens, and passengers who do not pay)

Figure 10 shows distribution of fare payment for Route 21 (left) and Route 53 (right).

**Figure 10. Routes 21 (left) and 53 (right) Ridership by Fare Category, October 2010**



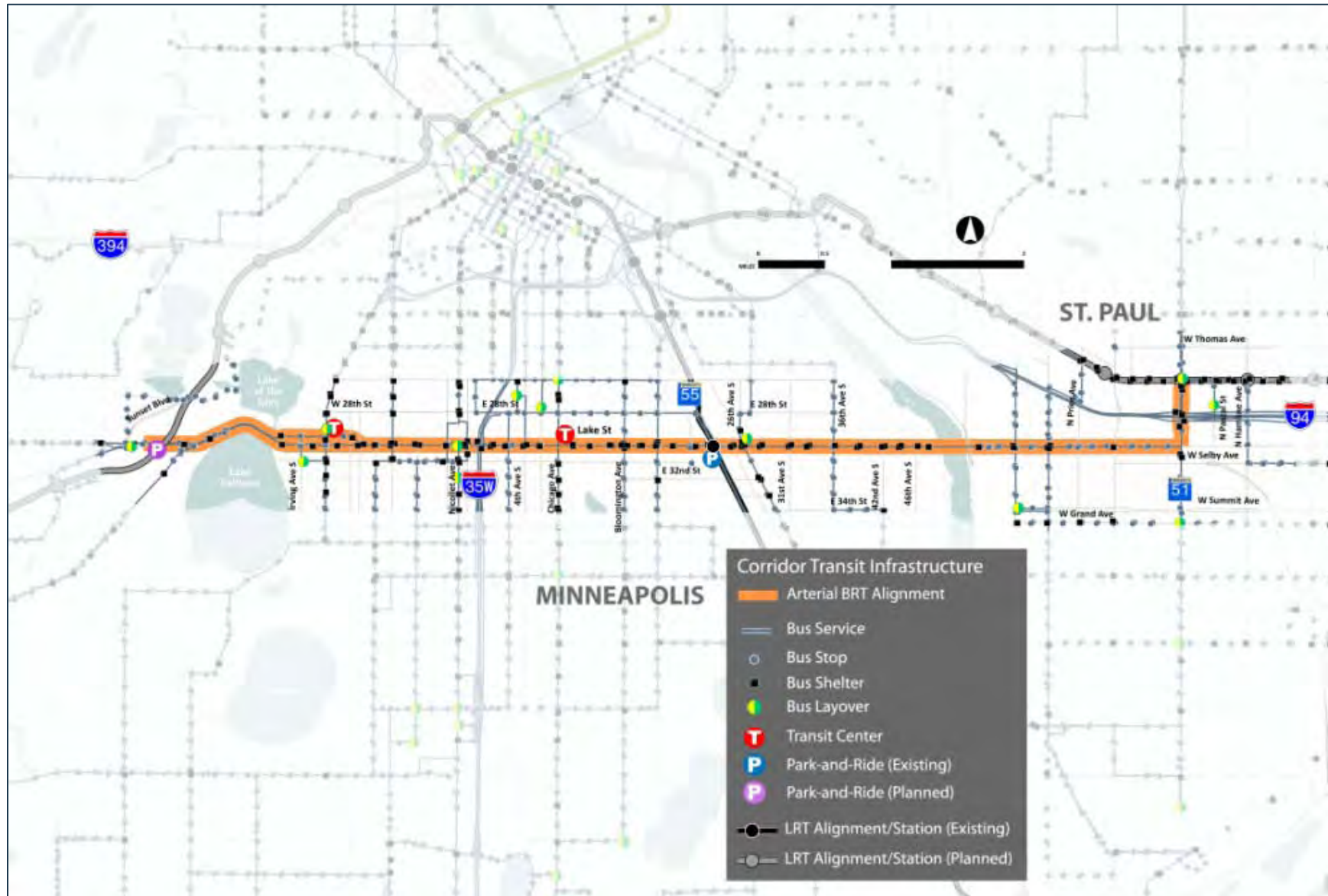
Smartcard usage for Route 21 accounted for about 26 percent of total boardings. Limited mobility boardings (both farebox and Smartcard) were 2.9 percent of total boardings. Cash boardings were 14.0 percent. These percentages are fairly typical for Urban Local routes. Smartcard usage for Route 53 is about 46 percent of total boardings, which is much higher than the 21. Limited mobility boardings (both farebox and Smartcard) were 1.5 percent of total boardings (lower than typical). Cash boardings were 9.0 percent (lower than typical).

### Transit Infrastructure

Existing transit infrastructure in the Lake Street corridor is shown in Figure 11.

- Bus stops are spaced at less than ¼-mile intervals for most of the corridor.
- Passenger waiting shelters are located at nearly every bus stop on the Minneapolis portion of the corridor, and at major intersections on the St. Paul portion of the corridor.
- Existing layovers are located at both corridor termini, at Midway and at Lake/France (existing Route 17 layover/turnaround).
- An existing park-and-ride is located at Lake Street/Midtown Station on the Hiawatha Line. A park-and-ride is also planned for the Southwest LRT West Lake Station.

Figure 11. Lake Street Corridor Existing Transit Infrastructure



## Planned Land Use Changes

### City of Minneapolis (Sector Planners Amanda Arnold and Paul Mogush)

General Growth Patterns would occur around the following comprehensive plan land use features:

- Transit Station Area: Lake Street/Midtown
- Major Retail Center: Hiawatha & Lake
- Major Retail Center: Nicollet & Lake
- Major Retail Center: Calhoun & Excelsior
- Activity Center: Lake Street LRT Station
- Activity Center: Chicago & Lake
- Activity Center: Nicollet & Lake
- Activity Center: Lyn-Lake
- Activity Center: Uptown
- Commercial Corridor: Lake Street, from Mississippi River to Abbott Ave S

The Lake Street corridor has several fairly large scale development projects in the planning or implementation phases that could increase housing density. Job intensity will also increase, although not as significant a change as housing. The most significant of these are the old industrial properties a block off the corridor, just north of the Midtown Greenway. Several industrial sites are already in the redevelopment process, such as the Bennett Lumber site that has three large parcels and will likely eventually create 1,000 housing units in several phases. This site lies between the Hennepin (Uptown) and Lyndale (Lyn-Lake) Activity Centers. Similar land use conversions are likely over time along the Greenway further east (between Chicago/Lake and Hiawatha/Lake), although this is more speculative, as no proposals have yet surfaced.

The proposed LRT station at the western end of the corridor (Calhoun/Excelsior Major Retail Center) is another site where planners believe significant job and housing densification will occur. The site has all the characteristics for significant investment – large parcels under single ownership, existing successful retail, commercial, and housing developments, and many transportation alternatives.

The existing LRT Station at Hiawatha (Midtown) is also forecast to have substantial increases in housing density. A 6.5 acre former school site is proposed for redevelopment to include housing and some services (approximately 550 units) and additional redevelopment sites are likely to add up to another 700 units. The center has significant retail and commercial that will continue into the future, but not significantly change in job intensity. Housing growth along the LRT line at this station has significantly exceeded original market forecasts.

The Uptown Activity Center was, at one time, the focus of significant investment in high density housing and new commercial activities. These have almost all been scaled back and are unlikely to significantly change the density, intensity or land use. The area continues to be a successful Activity Center and no decline in activity is expected.

The other Activity Centers along Lake Street are likely to see some growth, but not changes that will substantially affect forecasts. The Commercial Corridor between I-35 and the Mississippi River has many opportunities for intensifying currently underutilized land uses, but market demand has been quite low, the parcels are quite shallow, and the adjoining single family residential properties are stable.

**City of St. Paul (Christina Morrison)**

Of all the study corridors running through St. Paul, the Lake Street (Marshall Avenue on the St. Paul side) corridor is the only one not designated in the Comprehensive Plan as a mixed use corridor. Marshall is identified as a residential corridor. The zoning is RM2 and would allow for more density that is typical for the corridor land uses.

Two neighborhood commercial nodes, at Cleveland and Fairview, are noted on land use plans. These nodes are expected to remain viable, but not contribute to any significant changes. St. Thomas is two blocks south of this corridor and will contribute to stability in transit ridership and long-term market pressure for denser housing.



## American Boulevard

The American Boulevard corridor is unique among the 11 corridors examined in this study. Although current transit use in this corridor is low, several factors underscore the need to study high-quality transit improvements along American Boulevard. The American Boulevard corridor forms an important east-west connection between four of the region's current and planned transitways (Hiawatha LRT, Southwest LRT, I-35W BRT, and Cedar Avenue BRT). Arterial BRT in this corridor would facilitate a direct, high-quality connection for transitway riders to the 60,000 jobs in the American Boulevard corridor south of I-494. The inclusion of American Boulevard in the Arterial Transitway Corridors Study is driven by a strong regional desire to fill the transit service gap on this key employment corridor.

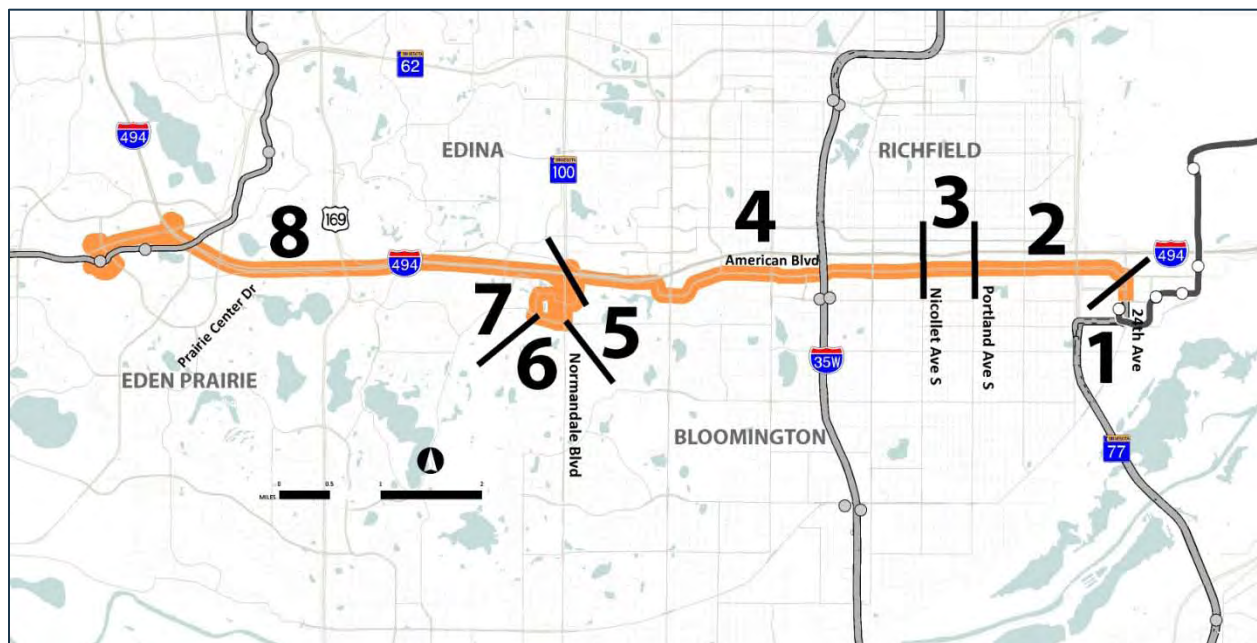
## Roadway Conditions

Roadway information was requested from the City of Bloomington for the American Boulevard corridor. Existing conditions information is summarized by the following segments in Table 16.

- Segment 1: 24th Avenue (82nd Street to American Boulevard)
- Segment 2: American Boulevard (24th Avenue to Portland Avenue)
- Segment 3: American Boulevard (Portland Avenue to Nicollet Avenue)
- Segment 4: American Boulevard (Nicollet Avenue to Normandale Boulevard)
- Segment 5: 84th Street (Normandale Boulevard to Normandale Lake Boulevard)
- Segment 6: Normandale Boulevard (I-494 to 84th Street)
- Segment 7: Norman Center Drive
- Segment 8: Interstate 494 to Southwest Station

Figure 12 is a map of the American Boulevard corridor with existing and planned transitways shown.

**Figure 12. American Boulevard Corridor**



**Table 16. American Boulevard Roadway Characteristics**

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
1	8,000	36,000	Signalized intersections		3 lanes/ direction		Yes	No	No	Yes	Construction of Lindau Lane from 24th Ave to 30th Ave in 2013. This will add a new leg (east side) to the intersection of 24th Ave and Lindau Lane.
2	10,200-26,300	21,000	Signalized intersections		3 lanes/ direction east of TH 77; 2 lanes/ direction west of TH 77; divided roadway		Yes	No	No	Yes	None identified.
3	16,700	26,000	Signalized intersections		3 lanes/ direction; divided roadway		Yes	No	No	Yes	Potential street reconstruction at Portland and Nicollet avenues if MnDOT replaces bridges.
4	13,100-19,100	12,000-27,000	Signalized intersections		2 lanes/ direction; short stretch of 3 lane/ direction; divided roadway		Yes	No	No	Yes	Potential Stanley Road improvement. City has half ROW, but project is unfunded and not possible until full ROW is obtained.  Probable project at intersection of Penn and American. American Blvd between France and Normandale Lake Blvd in CIP for future reconstruction.
5	18,600-19,600	11,000	Signalized intersections		2 lanes/ direction; divided roadway		Yes	No	No	Yes	Unfunded intersection improvement at 84th and Normandale (potential triple left turn from EB 84th St to NB Normandale Blvd)
6	37,900	42,000	Signalized intersections		3 lanes/ direction; divided roadway		Yes	No	No	No	Unfunded intersection improvement at 84th and Normandale (potential triple left turn from EB 84th St to NB Normandale Blvd)

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
7	12,000	15,000	Stop signs		2 lanes/ direction		No	No	No	Yes	None identified.
8	95,000-139,000	189,000-202,000	Limited access		3-4 lanes/ direction; divided interstate		No	No	No	No	Potential for bus-only shoulder operations

Signalized intersections in the corridor are at the following locations (listed from west to east):

- Eden Prairie
  - Prairie Center Dr at Plaza Dr (WB)
  - Prairie Center Dr at Technology Dr (WB)
  
- Bloomington
  - Normandale Blvd at 84th St
  - 84th St at Norman Center Dr
  - 84th St at Normandale Lake Blvd
  - American Blvd at France
  - American Blvd at Northland Dr
  - American Blvd at 79th St
  - American Blvd at Xerxes
  - American Blvd at Rainbow Foods Access
  - American Blvd at Penn
  - American Blvd at Morgan Circle
  - American Blvd at Knox
  - American Blvd at Lyndale
  - American Blvd at Grand
  - American Blvd at Nicollet
  - American Blvd at Portland
  - American Blvd at Chicago
  - American Blvd at 12th Ave S
  - American Blvd at Thunderbird Rd
  - American Blvd at 24th Av S
  - 24th Av S at Lindau Ln
  - 24th Av S at 82nd St

## Existing Transit Conditions – Route 542

The proposed American Boulevard corridor follows American Boulevard and I-494. This corridor begins at the Mall of America (MOA) and follows American Boulevard to the Normandale Lakes office park. The alignment then follows I-494 to Eden Prairie (Prairie Center Drive). An LRT station is planned for this location as part of Southwest LRT.

Route 542 is the primary existing transit route in this corridor, serving the eastern portion between Normandale Lakes and MOA. Route 5 also operates on a portion of the American Boulevard corridor from Portland Avenue to MOA. There is currently no east-west transit service in the western portion of the corridor between Normandale Lakes and Prairie Center Drive. The corridor alignment and existing transit services are shown in Figure 13.

Route 542 begins at the MOA and follows American Boulevard to Lyndale Avenue. The route jogs north of I-494 on Lyndale and west on 76th Street, serving the Knox Avenue park-and-ride. The alignment then returns south of I-494 on Penn Avenue. In the morning, westbound trips follow American Boulevard and eastbound trips follow 84th Street (a street that is more residential than American Boulevard). In the afternoon, the route pattern is reversed. The route ends west of Highway 100 at the Normandale Lakes office park. Route 542 operates in the peak periods only at 30-minute frequencies (weekdays only).

The Route 542 alignment serves various hotels, offices, retail centers, and apartments along American Boulevard. Sam's Club and Home Depot are located west of Nicollet Avenue, and Southtown Shopping Center, Target, and Rainbow Foods are located at Penn Avenue. High-rise office buildings are located at France Avenue. Several car dealerships are located west of France Avenue. The Normandale Lakes office park anchors the route on the western end.

Route transfer opportunities to and from Route 542 within the American Boulevard corridor are as follows:

- Mall of America – Multiple routes including Hiawatha LRT
- American Boulevard/12th Avenue – Route 552
- American Boulevard/Portland Ave. – Routes 5, 553
- American Boulevard/Nicollet Ave. – Routes 18, 460, 465, 554
- American Boulevard/Lyndale – Routes 4, 535, 542
- Lyndale/77th St. – Routes 535, 540, 558
- Penn Ave./77th St. – Routes 4, 535, 538, 539, 558
- American Boulevard/France Ave. – Route 539

These services are shown in Figure 13.

## Service Characteristics and Route Performance

Pertinent Route 542 characteristics, resources, and statistics are noted in Table 17. Daily service statistics are from Metro Transit's September 2010 System Statistics.

**Table 17. Route 542 Service Characteristics, September 2010**

<b>Route 542</b>	<b>Weekday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>Route Characteristics</b>			
Hours of Operation	5:59 a.m.-7:38 p.m.	n/a	n/a
Frequency (Pk-Mid-Eve)	30-n/a-n/a		
Trips (one-way)	33		
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	16.2	n/a	n/a
Recovery	6.1		
Deadhead	<u>2.5</u>		
Total (Platform)	24.8		
<b>Daily Miles</b>			
In Service	268.2	n/a	n/a
Deadhead	<u>40.2</u>		
Total	308.5		
<b>Bus Requirements</b>			
AM	3		
Midday	0	n/a	n/a
PM	3		
Night	0		

Key route performance indicators are shown in Table 18 for 2009. Figures are from Metro Transit's 2009 Regional Performance Report.

**Table 18. Route 542 Performance, 2009 Annual Totals**

	<b>Weekday</b>
<b>In-service miles</b>	77,326
<b>In-service hours</b>	4,615
<b>In-service speed (miles per hour)</b>	16.8
<b>Operating cost</b>	\$747,412
<b>Fare revenue</b>	\$57,333
<b>Passengers</b>	50,167
<b>Average daily passengers</b>	197
<b>Average fare per passenger</b>	\$1.14
<b>Subsidy</b>	\$690,078
<b>Subsidy per passenger</b>	\$13.76
<b>Passengers per in-service hour</b>	10.9
<b>Passengers per in-service mile</b>	0.65
<b>Farebox recovery ratio</b>	7.7%

Route 542's subsidy per passenger is 48 percent higher than the Metro Transit suburban local average subsidy of \$9.26. It serves considerably fewer passengers per hour than the average suburban local route and collects a lower fare per passenger.

Figure 13. American Boulevard Corridor– Route 542 and Connecting Services



### On-Time Performance

Metro Transit defines “on-time” as departing between one minute early and five minutes late. The systemwide on-time performance goal was 88 percent in October 2010. Table 19 depicts Route 542’s weekday on-time performance as it compares to the systemwide average.

**Table 19. Route 542 On-Time Performance, October 2010**

	On Time	Late	Early
<b>Route 542</b>	96.0	2.8	1.3
<i>Eastbound</i>	97.6	1.4	1.0
<i>Westbound</i>	94.0	4.4	1.6
<b>Systemwide</b>	87.7	9.8	2.5

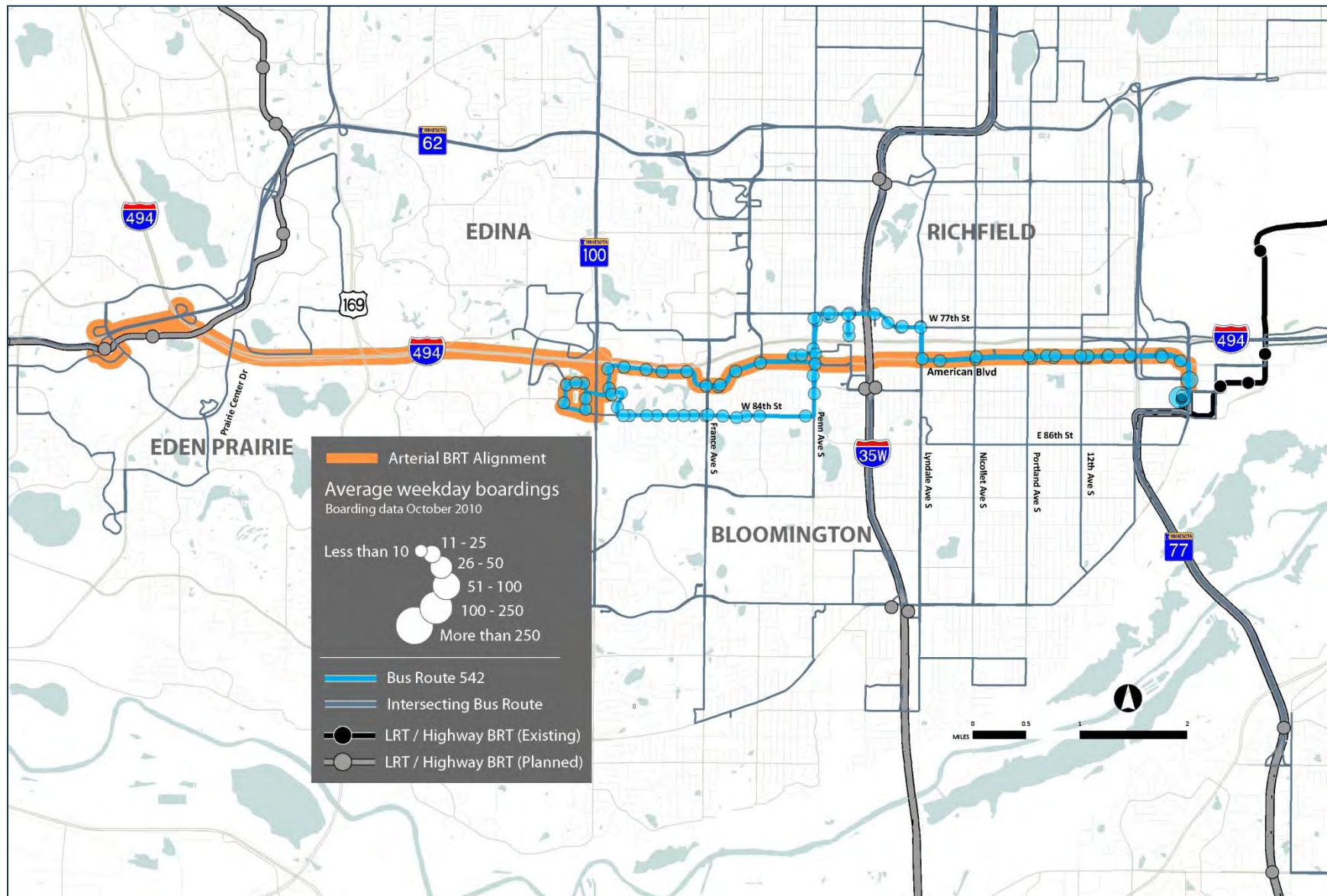
Route 542’s on-time performance was 8.3 percentage points better than the systemwide average. The eastbound direction performed better than the westbound direction, though both performed remarkably well.

### Stop-Level Ridership

Figure 14 illustrates weekday ridership boardings by stop for Route 542. Route 5 also operates on a portion of American Boulevard, east of Portland Avenue. Boardings in this segment are not included in the total American Boulevard existing transit demand, as Route 5 serves a different market.



Figure 14. American Boulevard Corridor Weekday Ridership by Stop, October 2010



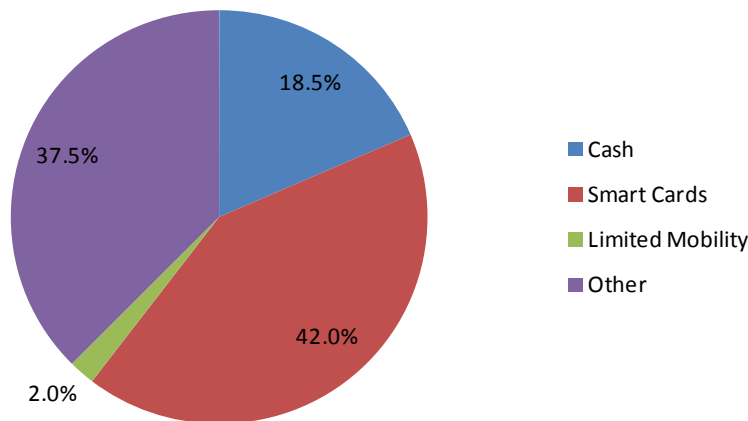
### Ridership by Fare Type/Media

Fare payment type/media can be used as an indicator of expected boarding delay. Smartcard payments incur less boarding delay than pass payments through the farebox, and both types of payment are faster than cash payment. In addition, fare payment data can identify the relative volume of limited mobility customers, which is also related to speed of boarding. For purposes of isolating fare categories with similar delay characteristics, fare payment methods are aggregated into the following categories:

- Cash
- Limited Mobility (both Farebox and Smartcard)
- Smartcard (not including Limited Mobility)
- Other (includes transfers and other pass payments through the farebox, tokens, and passengers who do not pay)

Figure 15 shows Route 542's fare payment by category based on October 2010 fare payment data provided by Metro Transit. Smartcard usage is about 42 percent of total boardings. Limited mobility passengers represented 2.0 percent of total boardings. Cash boardings were 18.5 percent.

**Figure 15. Route 542 Ridership by Fare Category, October 2010**

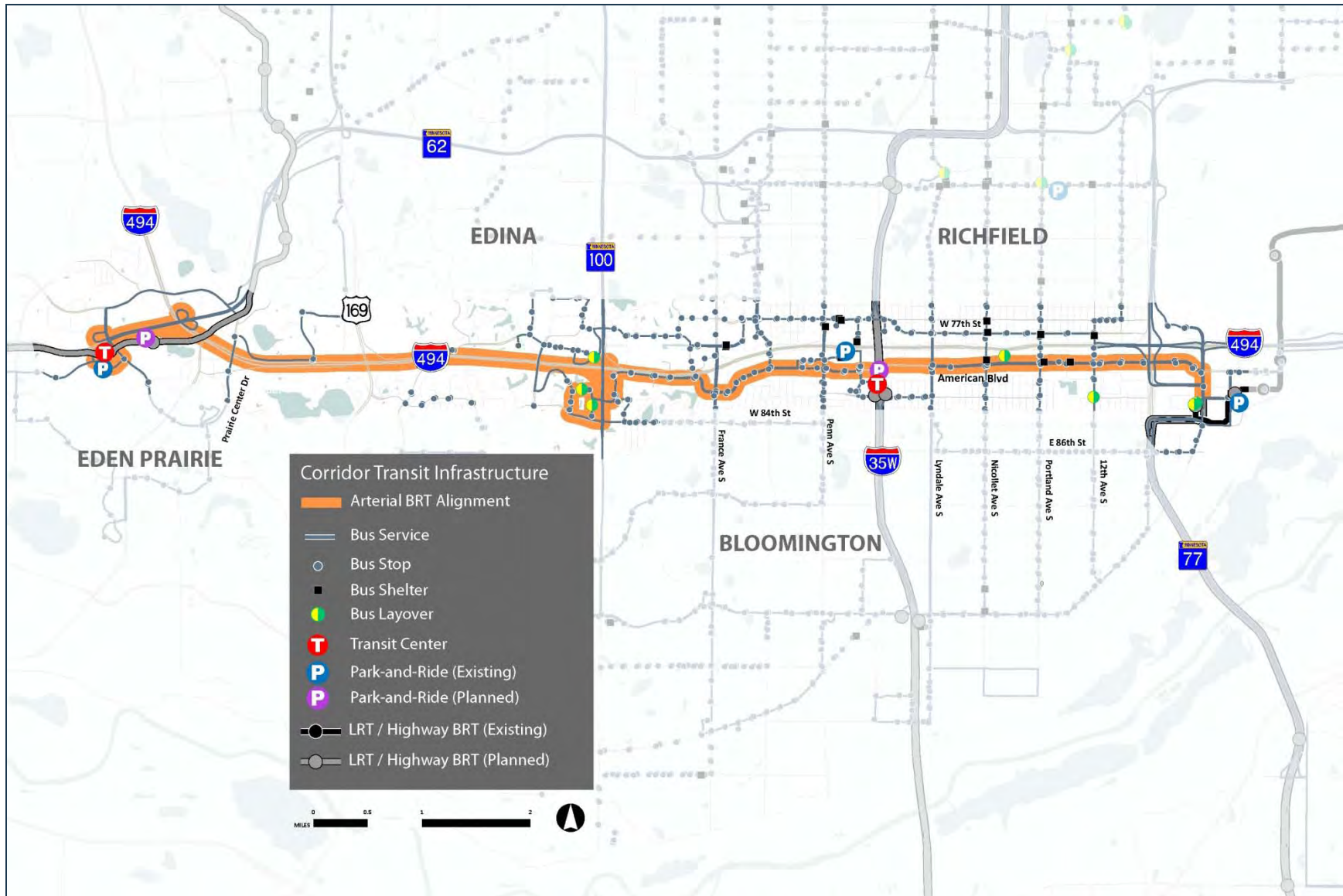


### Transit Infrastructure

Existing transit infrastructure in the American Boulevard corridor is shown in Figure 16.

- Bus stops are located approximately every  $\frac{1}{4}$  mile in the part of the corridor with existing service.
- Passenger waiting shelters are located at three locations in the eastern portion of the corridor between Nicollet and 12th avenues.
- Existing layovers are located at both corridor termini, at MOA and Southwest Station.
- A future park-and-ride will be located at American Boulevard/I-35W; existing park-and-rides are located at Knox Avenue/Best Buy (north of the I-494) and Southwest Station.
- A future I-35W BRT on-line station will be located at I-35W and American Boulevard.

Figure 16. American Boulevard Corridor Existing Transit Infrastructure



## Planned Land Use Changes

### City of Bloomington (Glen Markegard)

The City of Bloomington's Comprehensive Plan strongly supports transit improvements and recommends the American Blvd/I-494 corridor as a future transitway. The Comprehensive Plan makes no mention of potential Nicollet or Chicago Avenue transitways, except as they would run along American Boulevard. The Plan provides significant policy support for transit, providing guidance on how to make development transit friendly and how pedestrian and bicycle infrastructure supports transit use.

Mr. Markegard reports that Bloomington has designated three major growth nodes, all of them in the I-494/American Boulevard corridor: Penn-American, South Loop, and the Normandale Lake District. The City is expecting high levels of growth in the corridor and no diminishment of employment or residential populations. The City adopted the Normandale Lake District Plan to promote high density mixed use development. The plan calls for increased reverse commute transit service to the area. The City is currently preparing District Plans to guide high density, transit-supportive growth in the Penn-American and South Loop areas.

A variety of development and redevelopment sites are available throughout the corridor that would significantly increase employment and households in the corridor. As for multi-modal improvements, the Bloomington Comprehensive Plan recommends a variety of bicycle and pedestrian improvements. The City's adopted Alternative Transportation Plan focuses on bicycle and pedestrian access that can improve transit ridership. Mr. Markegard noted that the I-494 corridor has the second largest employment concentration in the Metro and MN DEED data indicates that more Minneapolis residents work in Bloomington than Bloomington residents work in Minneapolis, indicating a strong reverse commute situation.

Mr. Markegard recognizes that the corridor is currently highly auto-dependent. He noted that reverse commute transit riders aren't well served. Although existing ridership along American Boulevard is low, he expects rapid growth in the future with the implementation of more north-south lines (such as Cedar BRT and I-35W BRT) with easy transfer opportunities and if there is a transit linkage of an American Boulevard transitway with the Hiawatha and Southwest LRT lines.

## Central Avenue

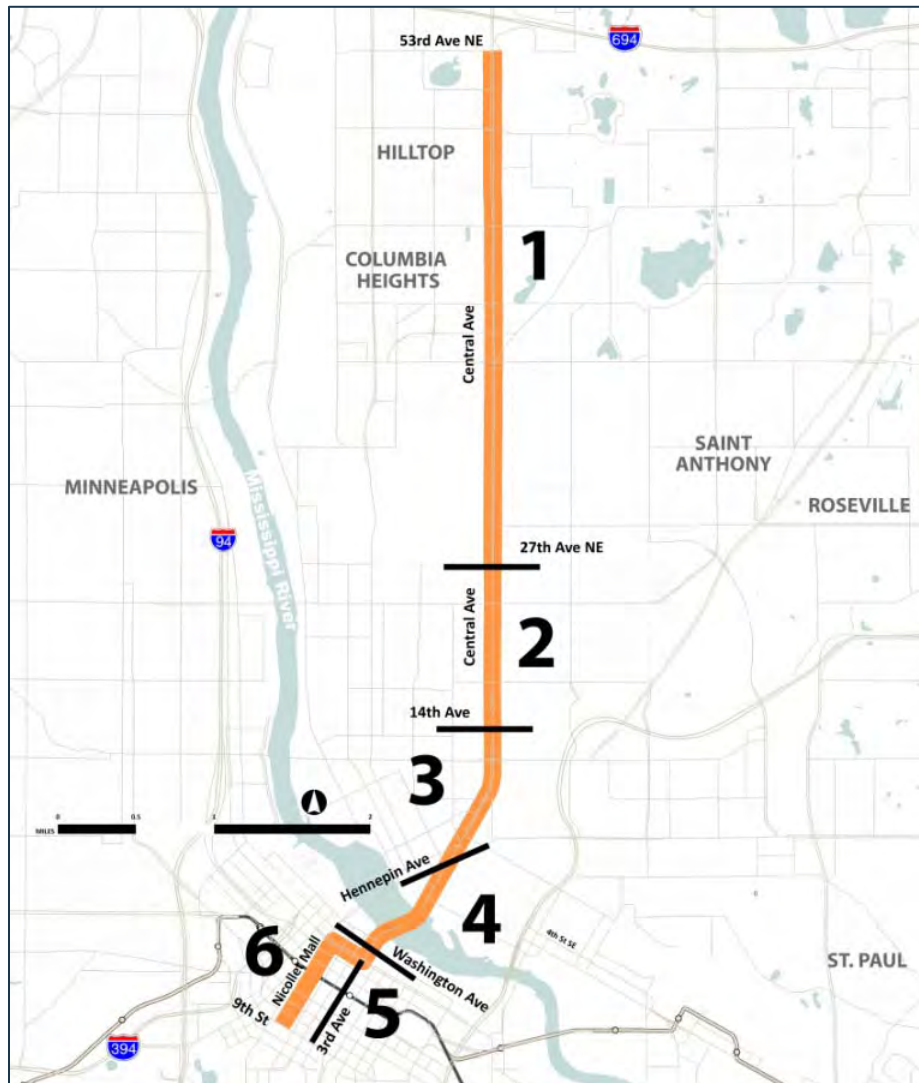
### Roadway Conditions

Information was requested from the City of Minneapolis and MnDOT for the Central Avenue corridor. The existing conditions information is summarized by the following segments in Table 20.

- Segment 1: Central Avenue (53rd Avenue to 27th Avenue NE)
- Segment 2: Central Avenue (27th Avenue to 14th Avenue NE)
- Segment 3: Central Avenue (14th Avenue to Hennepin Avenue)
- Segment 4: Central Avenue/3rd Avenue (Hennepin Avenue to Washington Avenue)
- Segment 5: Washington Avenue (3rd Avenue to Nicollet Mall)
- Segment 6: Nicollet Mall

Figure 17 is a map of the Central Avenue corridor.

Figure 17. Central Avenue Corridor



**Table 20. Central Avenue Roadway Characteristics**

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
1	11,000-26,000	16,000 and up	Signalized intersections; raised center median	100' between 27th- 45th Ave. over 100' south of 45th Ave	2 lanes/ direction		Yes	No	No	Yes	Potential streetcar corridor. Potential mill and overlay project. Potential addition of bike lanes.
2	11,000-19,400	14,900	Signalized intersections	100' between 18th-27th Ave	2 lanes/ direction		No	Yes	No	Yes	Potential streetcar corridor. Potential mill and overlay project. Potential addition of bike lanes.
3	18,100-19,400	13,300	Signalized intersections; raised center median	80'	2 lanes/ direction		Yes	No	No	Yes	Potential streetcar corridor. Potential mill and overlay project. Potential addition of bike lanes.
4	11,855-13,057	13,400-17,800	Signalized intersections	72' on 3rd Ave; 80' on Central	2 lanes/ direction	11-12	Yes-3rd	Yes	No	Yes	Potential streetcar corridor. Bike lanes or shared use markings planned on 3rd and Central.
5	20,977		Signalized intersections at every block	110	2 lanes/ direction	12	Yes	Yes-off-peak		No	None identified.
6	--	--	Signalized intersections at every block	80	1 lane/ direction; transit only	13	No	No	No	Yes	None identified.

Signalized intersections in the corridor are located at the following locations (listed from south to north):

- |   |   |  |
|---|---|--|
| <p>Minneapolis</p> <ul style="list-style-type: none"> <li>• Nicollet Mall at 10th St S</li> <li>• Nicollet Mall at 9th St S</li> <li>• Nicollet Mall at 8th St S</li> <li>• Nicollet Mall at 7th St S</li> <li>• Nicollet Mall at 6th St S</li> <li>• Nicollet Mall at 5th St S</li> <li>• Nicollet Mall at 4th St S</li> <li>• Nicollet Mall at 3rd St S</li> <li>• Nicollet Mall at Washington</li> <li>• Washington at Marquette Av S</li> <li>• Washington at 2nd Av S</li> <li>• Washington at 3rd Av S</li> <li>• 3rd Av S at 2nd St S</li> <li>• 3rd Av S at 1st St S</li> <li>• Central Av SE at 2nd St SE</li> <li>• Central Av SE at University Av SE</li> <li>• Central Av SE at 4th St SE</li> <li>• Central Av SE at Hennepin Av E</li> <li>• Central Av NE at 1st Av NE</li> <li>• Central Av NE at Spring St NE</li> <li>• Central Av NE at Broadway St NE</li> <li>• Central Av NE at 14th Av NE</li> </ul> | <ul style="list-style-type: none"> <li>• Central Av NE at 18th Av NE</li> <li>• Central Av NE at 18 1/2 Av NE</li> <li>• Central Av NE at 19th Av NE</li> <li>• Central Av NE at 20th Av NE</li> <li>• Central Av NE at 22nd Av NE</li> <li>• Central Av NE at 24th Av NE</li> <li>• Central Av NE at Lowry Av NE</li> <li>• Central Av NE at 26th Av NE</li> <li>• Central Av NE at 27th Av NE</li> <li>• Central Av NE at 29th Av NE</li> <li>• Central at St Anthony Pkwy</li> <li>• Central Av NE at 35th Av NE</li> <li>• Central Av NE at 37th Av NE</li> </ul> | <p>Columbia Heights</p> <ul style="list-style-type: none"> <li>• Central Av at 40th Av NE</li> <li>• Central Av at 41st Av NE</li> <li>• Central Av at 44th Av NE</li> <li>• Central Av at 45th Av NE</li> <li>• Central Av at 47th Av NE</li> <li>• Central Av at 49th Av NE</li> <li>• Central Av at 50th Av NE</li> <li>• Central Av at 52nd Av NE</li> <li>• Central Av at 53rd Av NE</li> </ul> |
|---|---|--|

## Existing Transit Conditions – Routes 10/59

The proposed Central Avenue corridor follows Central Avenue from downtown Minneapolis to 53rd Street in Columbia Heights. Routes 10 and 59 are the primary transit routes that serve this corridor. The corridor alignment and existing transit services are shown in Figure 18.

Route 10 begins in downtown Minneapolis at the Convention Center. Southbound trips operating south of Washington Avenue provide free downtown rides as part of the Nicollet Mall Free Ride service. Route 10 crosses the Mississippi River on Central Avenue and follows Central Avenue to 53rd Avenue. The route continues north to Fridley and Spring Lake Park, with service terminating at the Northtown Transit Center. Northbound weekday route patterns are:

- 10N – follows Central Avenue, Osborne Road and Monroe Street to Northtown Transit Center
- 10U – follows 53rd Avenue and University Avenue to the Northtown Transit Center
- 10C – turns back at the Columbia Heights Transit Center

Two of the three route patterns operate along the entire alignment of the proposed Central Avenue corridor.

During the weekday (daytime), every third trip generally does one of the above-noted patterns – each at about 30-minute frequencies, resulting in a combined 10-minute frequency (a little more frequent in the peak periods). On Saturdays, the 10N and 10U operate at 60-minute frequencies each and the 10C operates at 30-minute frequencies, resulting in a combined 15-minute average frequency. On Sundays, the 10N, 10U, and 10C all operate at 60-minute frequencies, resulting in a combined 20-minute frequency.

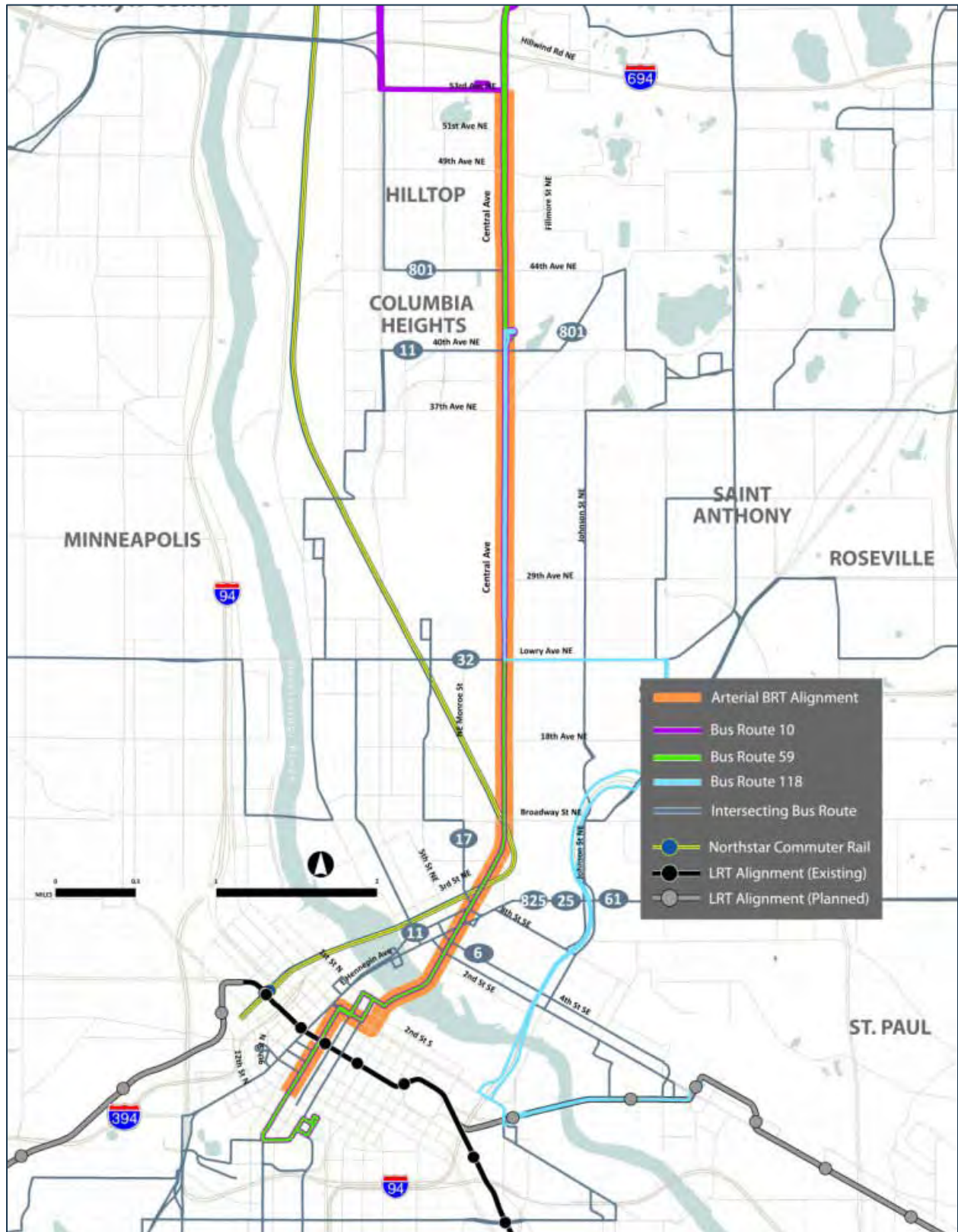
Within the proposed corridor, Route 10's alignment serves downtown Minneapolis, a mix of urban commercial and higher density residential north of the Mississippi River, Columbia Heights Transit Center at 41st Avenue, downtown Columbia Heights, a Rainbow Foods shopping center at 44th Avenue, Central Plaza at 45th Avenue, Super Target, and Menards at 53rd Avenue. Columbia Heights High School is located just off of the corridor on 49th Avenue. Edison High School is located just off of the corridor near Lowry. The corridor transitions to a more suburban setting north of downtown Columbia Heights.

Route transfer opportunities to and from Route 10 within the defined Central Avenue corridor are as follows:

- Central Avenue/E. Hennepin Avenue – Routes 25, 61, 825
- Central Avenue/7th Street – Route 17
- Central Avenue and Lowry Avenue – Routes 32 and 118
- Columbia Heights Transit Center – Routes 11, 59, 118 and 801
- 44th Avenue – Route 801



Figure 18. Central Avenue Corridor Routes and Connecting Services



**Route 59** also serves this proposed arterial BRT corridor. Route 59 provides limited stop service between Central Avenue/53rd Street and downtown Minneapolis. As with Route 10, southbound trips operating south of Washington Avenue provide free downtown rides as part of the Nicollet Mall Free Ride service. A few Route 59 trips also provide service north of 53rd Street. Limited stop locations are as follows:

- Central/53rd
- Central/47th
- Central/44th
- Central/40th (SB)
- Central/Columbia Heights Transit Center (NB)
- Central/37th
- Central/St. Anthony Parkway
- Central/Lowry
- Central/19th
- Central/Spring St.
- Central/Hennepin/6th (NB)
- Central/4th Street (SB)
- Central/University (NB)

Route 59 operates weekdays only in the peak periods, and in the peak direction only. Twelve trips operate in the a.m. peak, and 13 trips operate in the p.m. peak, with only a few trips traveling north of Central and 53rd Avenue. Service operates at 10-minute frequencies. Route transfer opportunities to and from Route 59 within the defined Central Avenue corridor are the same as noted for Route 10.

Route 118 also operates on Central Avenue from Lowry Avenue to the Columbia Heights Transit Center, directly connecting a portion of the corridor to the University of Minnesota.

### **Service Characteristics and Route Performance**

Pertinent Route 10 and Route 59 characteristics, resources, and statistics are noted in Table 21. Daily service statistics are from Metro Transit's September 2010 System Statistics.

**Table 21. Routes 10 and 59 Service Characteristics, September 2010**

<b>Route 10</b>	<b>Weekday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>Route Characteristics</b>			
Hours of Operation	4:29 a.m.-2:36 a.m.	4:27 a.m.-2:36 a.m.	4:28 a.m.-2:32 a.m.
Frequency (Pk-Mid-Eve)	12-10-18	22-15-30	30-20-30
Trips (one-way)	188	121	94
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	166.9	97.2	66.5
Recovery	39.5	33.4	21.6
Deadhead	<u>13.9</u>	<u>6.0</u>	<u>6.7</u>
Total (Platform)	220.2	136.6	94.7
<b>Daily Miles</b>			
In Service	2177.7	1279.1	891.0
Deadhead	<u>317.6</u>	<u>144.7</u>	<u>125.9</u>
Total	2495.3	1423.8	1016.9
<b>Bus Requirements</b>			
AM	12	9	3
Midday	13	9	7
PM	15	9	7
Night	7	5	3
<b>Route 59</b>	<b>Weekday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>Route Characteristics</b>			
Hours of Operation	5:39 a.m.-8:56 a.m. 3:09 p.m.-6:35 p.m.	n/a	n/a
Frequency (Pk-Mid-Eve)	10-n/a-n/a		
Trips (one-way)	25		
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	18.7	n/a	n/a
Recovery	3.6		
Deadhead	<u>10.2</u>		
Total (Platform)	32.6		
<b>Daily Miles</b>			
In Service	253.4	n/a	n/a
Deadhead	<u>248.0</u>		
Total	501.4		
<b>Bus Requirements</b>			
AM	6		
Midday	0	n/a	n/a
PM	8		
Night	0		

Key Route 10 performance indicators for 2009 are shown in Table 22. Figures are from Metro Transit's 2009 Regional Performance Report. Route 59 was introduced in March 2010 as a restructured Route 829, which was concurrently discontinued. For reference, the table includes Route 829 performance statistics.

**Table 22. Routes 10 and 829 Performance, 2009 Annual Totals**

	Route 10 Weekday	Route 10 Saturday	Route 10 Sunday	Route 10 Total	Route 829 Weekday
In-service miles	537,443	62,325	48,784	<b>648,552</b>	34,712
In-service hours	40,982	4,846	3,647	<b>49,474</b>	2,319
In-service speed (miles per hour)	13.1	12.9	13.4	<b>13.1</b>	15.0
Operating cost	\$5,810,322	\$694,381	\$539,407	<b>\$7,044,110</b>	\$445,349
Fare revenue	\$1,877,281	\$208,921	\$151,724	<b>\$2,237,926</b>	\$121,158
Passengers	1,882,008	245,082	163,723	<b>2,290,813</b>	61,030
Average daily passengers	7,330	4,718	2,977	--	239
Average fare per passenger	\$1.00	\$0.85	\$0.93	<b>\$0.93</b>	\$1.99
Total subsidy	\$3,933,041	\$485,460	\$387,683	<b>\$4,806,184</b>	\$324,191
Subsidy per passenger	\$2.09	\$1.98	\$2.37	<b>\$2.15</b>	\$5.31
Passengers per in-service hour	45.92	50.58	44.90	<b>47.13</b>	26.32
Passengers per in-service mile	3.50	3.93	3.36	<b>3.53</b>	1.76
Farebox recovery ratio	32.3%	30.1%	28.1%	<b>31.8%</b>	27.2%

### On-Time Performance

Metro Transit defines “on-time” as departing between one minute early and five minutes late. The systemwide on-time performance goal was 88 percent in October 2010. Table 23 depicts Route 10 and Route 59 weekday on-time performance compared to the systemwide average.

**Table 23. Routes 10 and 59 Weekday On-Time Performance, October 2010**

	On Time	Late	Early
<b>Route 10</b>	81.9	14.6	3.4
<i>Northbound</i>	80.7	15.4	3.9
<i>Southbound</i>	83.2	13.9	2.9
<b>Route 59</b>	78.6	18.5	2.9
<i>Northbound</i>	73.7	22.8	3.5
<i>Southbound</i>	83.4	14.3	2.3
<b>Systemwide</b>	87.7	9.8	2.5

In October 2010, Route 10 was on time 81.9 percent of the time on weekdays. 14.6 percent of all weekday departures were late while 3.4 percent were recorded as early. Thus, Route 10’s on-time performance was 5.8 percentage points worse than the systemwide average. The southbound direction performed slightly better than the northbound direction. Route 59 was on time 78.6 percent of the time on weekdays. 18.5 percent of all weekday departures were late while 2.9 percent were recorded as early. Thus, Route 59’s on-time performance was 9.1 percentage points worse than the systemwide average. The southbound direction performed significantly better than the northbound direction.

Systemwide on-time performance on Saturdays fared slightly poorer than weekdays with 85.0 percent of all trips departing on time, 12.8 percent departing late and 2.2 percent departing early. Route 10 also performed worse on Saturdays with 72.2 percent of all trips departing on time (22.6 percent late, 5.0 percent early). Systemwide on-time performance on Sundays was better than Saturdays and nearly identical to weekdays with 87.6 percent of all trips departing on time, 10.3 percent departing late and 2.0 percent departing early. On Sundays, Route 10 performed better than Saturdays but worse than weekdays with 77.6 percent of all trips departing on time (19.0 percent late, 3.4 percent early).

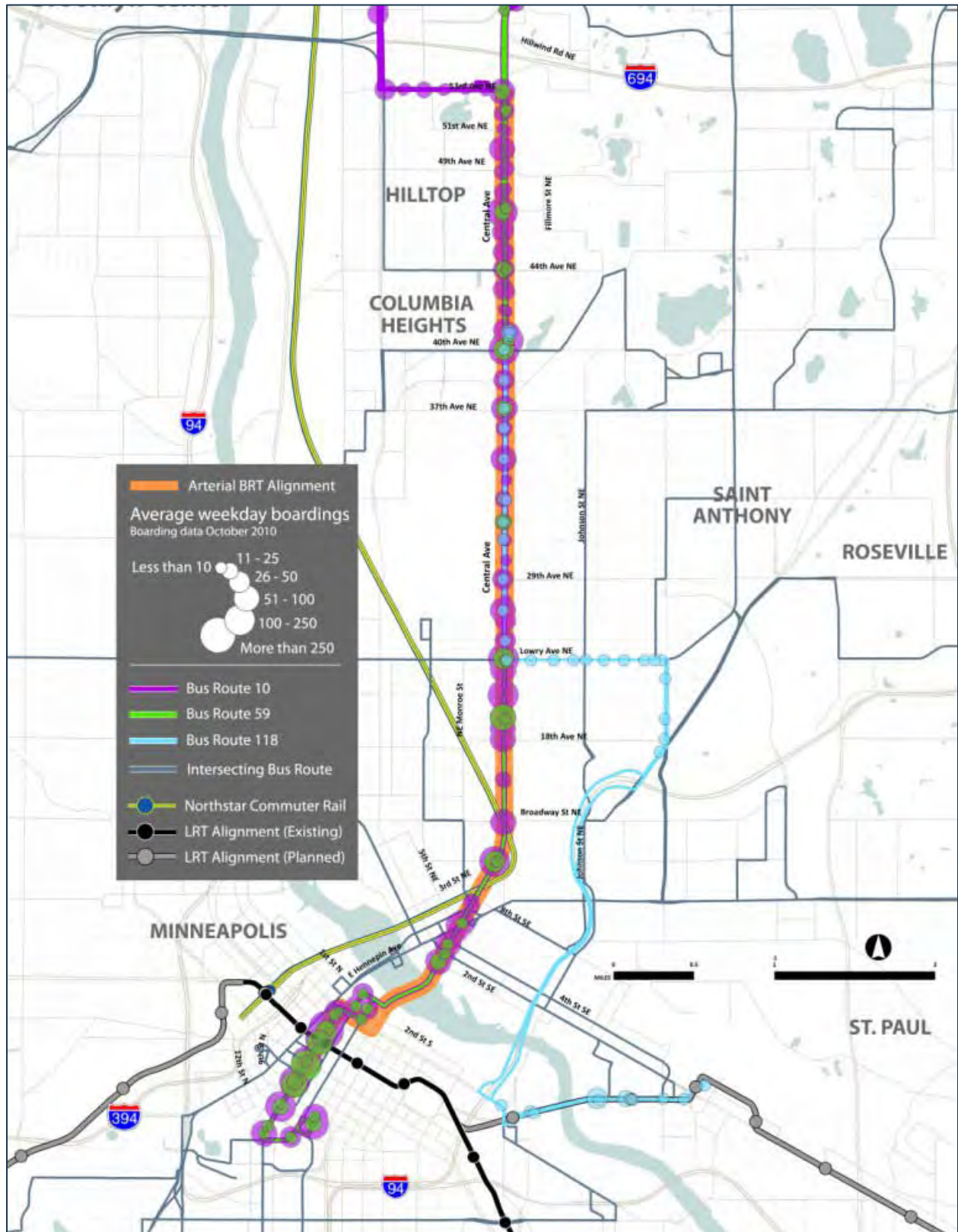
### Stop-Level Ridership

Current Route 10 and Route 59 average daily ridership (October 2010 APC data) is as follows:

- Route 10 Weekdays: 7,785
- Route 59 Weekdays: 783
- Route 10 Saturdays: 4,825
- Route 10 Sundays: 3,354

About 6,263 of the Route 10's 7,785 weekday boardings occur within the defined Central Avenue corridor. The downtown segment of the corridor had 3,118 boardings and the segment between the Mississippi River and 53rd Avenue had 3,145 boardings. Route 59 has 697 boardings on the proposed corridor. Route 118, which operates on a small segment of Central Avenue, had about 35 daily boardings along this segment. Thus, total weekday boarding activity within the defined Central Avenue corridor is approximately 7,000. Figure 19 illustrates weekday ridership boardings by stop for Routes 10, 59, and 118.

Figure 19. Central Avenue Corridor Weekday Ridership by Stop, October 2010



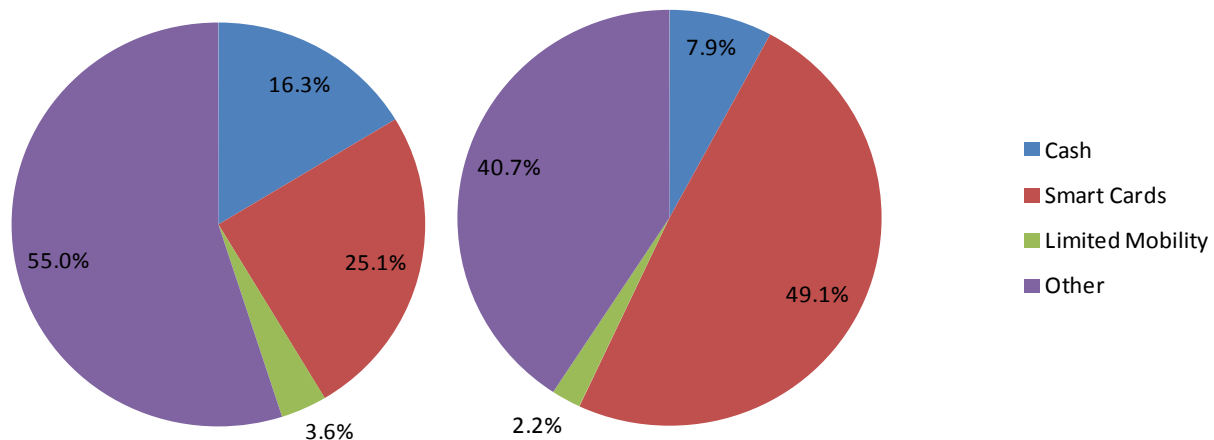
### Ridership by Fare Type/Media

For purposes of isolating fare categories with similar delay characteristics, fare payment methods are aggregated into the following categories:

- Cash
- Limited Mobility (both Farebox and Smartcard)
- Smartcard (not including Limited Mobility)
- Other (includes transfers and other pass payments through the farebox, tokens, and passengers who do not pay)

Figure 20 shows distribution of fare payment for Route 10 (left) and Route 59 (right). Smartcard usage on Route 10 is about 25 percent of total boardings. Limited mobility boardings (both farebox and Smartcard) were 3.6 percent of total boardings. Cash boardings were 16.3 percent. These percentages are fairly typical for Urban Local routes. Smartcard usage on Route 59 is about 49 percent of total boardings, which is much higher than Smartcard usage on Metro Transit Urban Local routes. Limited mobility boardings (both farebox and Smartcard) were 2.2 percent of total boardings. Cash boardings were 7.9 percent which is significantly lower than typical cash boardings on Urban Local routes.

**Figure 20. Routes 10 (left) and 59 (right) Ridership by Fare Category, October 2010**



### Transit Infrastructure

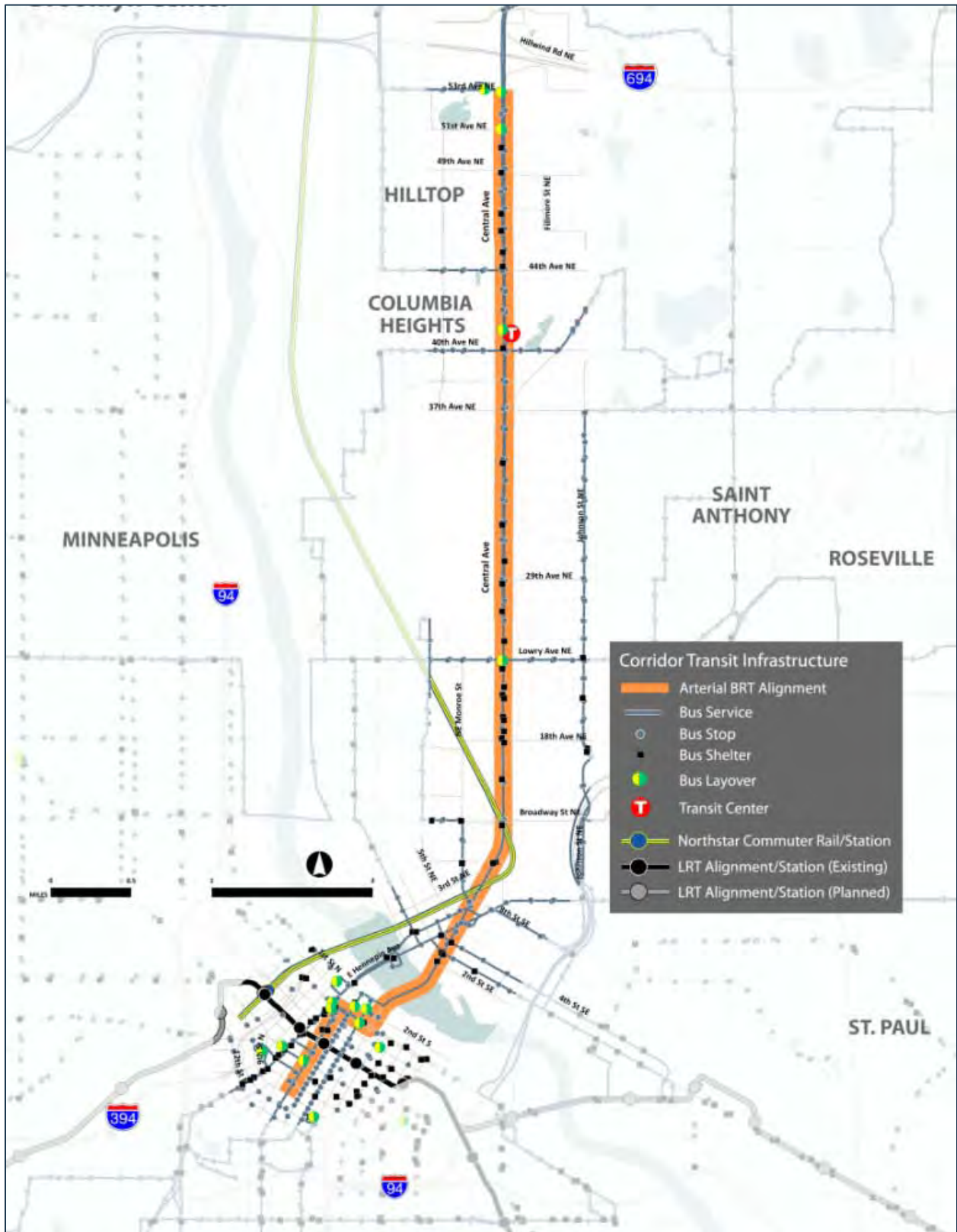
Existing transit infrastructure in the Central Avenue corridor is shown in Figure 21.

- Bus stops are spaced at intervals of less than  $\frac{1}{4}$  mile for most of the corridor, generally coinciding with each intersecting cross street.
- Passenger waiting shelters are located at nearly every stop south of Lowry Avenue, intermittently between Lowry Avenue and Columbia Heights Transit Center, and at nearly every stop in the southbound direction between 44th and 53rd avenues.
- Existing layovers are located on both corridor termini, at Leamington Ramp in downtown Minneapolis and at 53rd/Central (existing Route 59A layover/turnaround).
- There are no existing or planned park-and-ride facilities within the defined corridor.

In addition, a transit signal priority (TSP) system was installed on Central Avenue from 2nd Street SE to 53rd Avenue NE in 2009/2010 using funds from the Urban Partnership Agreement. The conditional TSP system allows Central Avenue buses to call for signal priority when running more than three minutes late. Currently, the system the system only allows one TSP request per intersection every seven (7) minutes, allowing the traffic signal controllers to re-establish coordination before the next TSP is granted. This situation will be remedied when the city's traffic management system is upgraded in a separate project led by the city. Because the seven-minute window is a TSP system parameter, the traffic signals in Columbia Heights operate under the same restriction.



Figure 21. Central Avenue Corridor Existing Transit Infrastructure



## Planned Land Use Changes

### City of Minneapolis (Sector Planner Haila Maze)

General Growth Patterns would occur around the following comprehensive plan land use features:

- Growth Center and Major Retail Center and Transit Station Area: Downtown
- Activity Center: East Hennepin
- Activity Center: Central & Lowry
- Commercial Corridor: Central Ave, from University Ave SE to 7th St NE
- Commercial Corridor: Central Ave, from 18th Ave NE to 31st Ave NE
- Industrial Employment District: Shoreham Yards

A number of the above growth centers are likely to see continued density and job intensity increases in the relative near term. The East Hennepin Center is the strongest center with solid growth in the past and strong likelihood of continued growth into the future. The initial attempt to redevelop the A-Mill campus failed, but new attempts are already serious and are likely over time to create up to 900 housing units in this area. Several other potential redevelopment sites could come into play in this area over the next 10 years, although none as significant as the A-Mill campus.

The Activity Center at Lowry Avenue, and the commercial corridor north of that center, are also areas that could see significant land use changes and densification. A portion of the Shoreham Yards north of Lowry is being actively marketed for redevelopment by the railroad, and the railroad has thus far maintained standards that the site should include significant job creation that is compatible with remaining rail operations. The site continues to get interest, but not thus far from proposals that meet the railroad's standards.

The Lowry Activity Center itself continues to see increasing housing densification and job creation, although the center is challenged by fragmented ownership and small lot sizes. Zoning already supports increased densification and job creation, which is likely to continue, but in fairly small increments. For the most part, higher density residential zoning lines the back side of the commercial properties along Central Avenue for much of its length, encouraging dense infill development along the corridor as sites become available.

The current Minneapolis Public Schools headquarters is located just off Central at Broadway. The headquarters is moving, which will relocate approximately 150 jobs to the Broadway Avenue Corridor. Planners are, however, of the opinion that the site is eminently marketable and likely to be redeveloped in the future (although not likely to happen in the immediate future).

The remaining segment north of Broadway is in the Northeast Arts District. Zoning and land use standards are designed to retain the industrial character of this area, while encouraging new compatible development, including arts-related and job-generating uses.

## West Broadway

### Roadway Conditions

Roadway information was requested from the cities of Minneapolis and Robbinsdale for the West Broadway corridor. The existing conditions information is summarized by the following segments in Table 24.

- Segment 1: 41st Avenue/Hubbard Avenue
- Segment 2: W Broadway/France Avenue/Oakdale Avenue
- Segment 3: W Broadway (Wirth Parkway to 29th Avenue)
- Segment 4: W Broadway (29th Avenue to Lyndale Avenue)
- Segment 5: Lyndale Avenue (W Broadway to Plymouth Avenue)
- Segment 6: 7th Street (Plymouth Avenue to split)
- Segment 7: 7th/10th Street (split to 1st Avenue)
- Segment 8: 7th Street (1st Avenue to Nicollet Mall)
- Segment 9: 8th Street (1st Avenue to Nicollet Mall)

Figure 22 is a map of the West Broadway corridor.

**Figure 22. West Broadway Corridor**

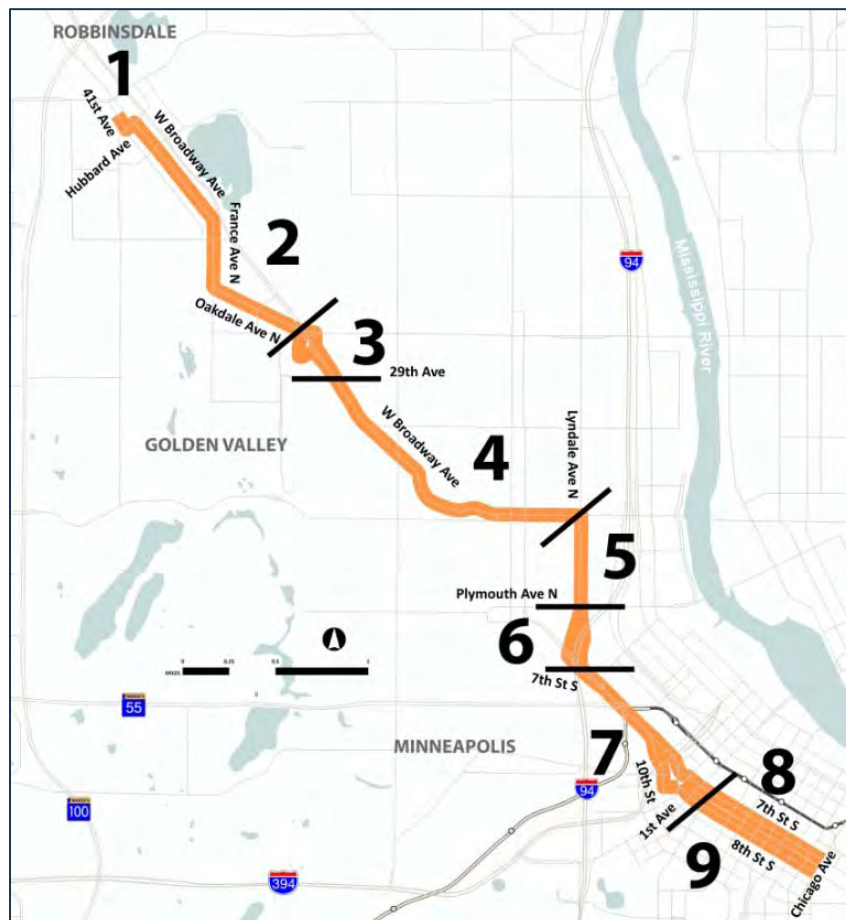


Table 24. West Broadway Roadway Characteristics

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
1	2,150	2,500	Stop signs at intersections of Hubbard/41st Ave, Hubbard/42nd Ave	60' on 41st Ave; 50' on Hubbard Ave	2 lanes/direction		No	Yes	No	Yes	None identified.
2	4,000-6,900	4,500-7,500	W Broadway: stop signs at 39th, 40th and 41st; France: signal at 36th, stop sign at 34th; Oakdale: stop signs at France, Abbott	66	2 lanes/direction		No	Yes	No	Yes	France and Oakdale avenues to be upgraded in 2011-2012. W Broadway is potential streetcar corridor.
3	10,500	11,800	Signalized intersections every 1-2 blocks		2 lanes/direction		No	No	No	Yes	W Broadway is potential streetcar corridor.
4	10,500-20,800	11,800-23,400	Signalized intersections every 1-2 blocks	73-75' between 29th and James; 80' otherwise	2 lanes/direction	11-13	Yes	Yes- between Girard and Bryant avenues	No	Yes	W Broadway is potential streetcar corridor.
5	6,805	8,100	Signalized intersections every 1-4 blocks	66	2 lanes/direction	12-13	No	Yes	No	Yes	W Broadway is potential streetcar corridor.
6	9,900 (SB); 9,600 (NB)	11,100 (SB); 10,800 (NB)	Signalized intersections every 1-4 blocks (one-way street)		2 lanes/direction		Yes	No	Yes	Yes	None identified.
7	9,100	10,200	Signalized intersections every 1-4 blocks		2 lanes/direction		Yes	No	Yes	Yes	None identified.

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
8	12,831-17,101		Signalized intersections at every block	80	3 lanes/direction	10	No	Yes- parking lane is peak-hour travel lane	No	Yes	None identified.
9	4,852-6,915		Signalized intersections at every block	60' between 1st and Hennepin; 70' between Hennepin and Nicollet Mall; roadway narrows to 33' at 1st Ave	3 lanes/direction	10-11	No	Yes- parking lane is peak-hour travel lane	No	Yes	None identified.

Signalized intersections in the corridor are located at the following locations (listed from south to north):

- Minneapolis
- 7th/8th at Chicago Av S
  - 7th/8th at Park Av S
  - 7th/8th at Portland Av S
  - 7th/8th at 5th Av S
  - 7th/8th at 4th Av S
  - 7th/8th at 3rd Av S
  - 7th/8th at 2nd Av S
  - 7th/8th at Marquette Av S
  - 7th/8th at Nicollet Mall
  - 8th at LaSalle (EB)
  - 7th at mid-block (LaSalle) (WB)
  - 7th/8th at Hennepin
  - 7th/8th at 1st Av N
  - 7th at 2nd Av N (WB)
  - 10th at Currie (EB)
  - 7th at 3rd Av N (WB)
  - 10th at Glenwood (EB)
  - 10th at 3rd Av N (EB)
  - 7th at Olson Memorial Hwy
  - 7th at Oak Lake
  - 7th at Lyndale
  - Lyndale at 11th (NB)
  - Lyndale at Plymouth
  - Lyndale at 18th
  - Lyndale at Broadway
  - Broadway at Aldrich
  - Broadway at Dupont
  - Broadway at Emerson
  - Broadway at Fremont
  - Broadway at Girard
  - Broadway at Irving
  - Broadway at Knox
  - Broadway at Logan
  - Broadway at Penn
  - Broadway at 26th
  - Broadway at 29th
  - France at 36th
  - Broadway at 31st

## Existing Transit Conditions – Route 14

The proposed West Broadway corridor begins in Robbinsdale and follows West Broadway, France Avenue, Oakdale Avenue, Broadway Avenue, Lyndale Avenue and 7th Street into Downtown Minneapolis. Route 14 is the primary Metro Transit route that serves this corridor. The corridor alignment and existing transit services are shown in Figure 23.

Route 14 begins northwest of downtown Minneapolis at the Robbinsdale Transit Center and travels through downtown Minneapolis and south on Bloomington Avenue, ending at Cedar Avenue and 66th Street. There are several different route patterns, but most trips begin at the Robbinsdale Transit Center. Some trips follow Broadway Avenue. Other trips follow Noble and 36th Avenue to Broadway. Other trips begin at Douglas and follow Golden Valley Road to Broadway. Route patterns consolidate at Broadway and Golden Valley Road and all patterns travel along West Broadway and Washington Avenue through Minneapolis. Weekday service frequencies from this location into downtown Minneapolis are generally 15 minutes in the peak periods, 20 minutes in the midday period and 30 minutes in the evening. Saturday and Sunday frequencies are generally 20 minutes during the day and 30 minutes in the evening.

Within the proposed corridor, Route 14's alignment serves downtown Robbinsdale, the Terrace Mall, North Memorial Outpatient Center, North Memorial Hospital, various medium density residential neighborhoods, North High School, Cub Foods at West Broadway and Aldrich, Broadway Center at West Broadway and Lyndale, and Metro Transit's Heywood facility at 7th Street and Olson Highway.

Route transfer opportunities to and from Route 14 within the defined Broadway Avenue corridor are as follows:

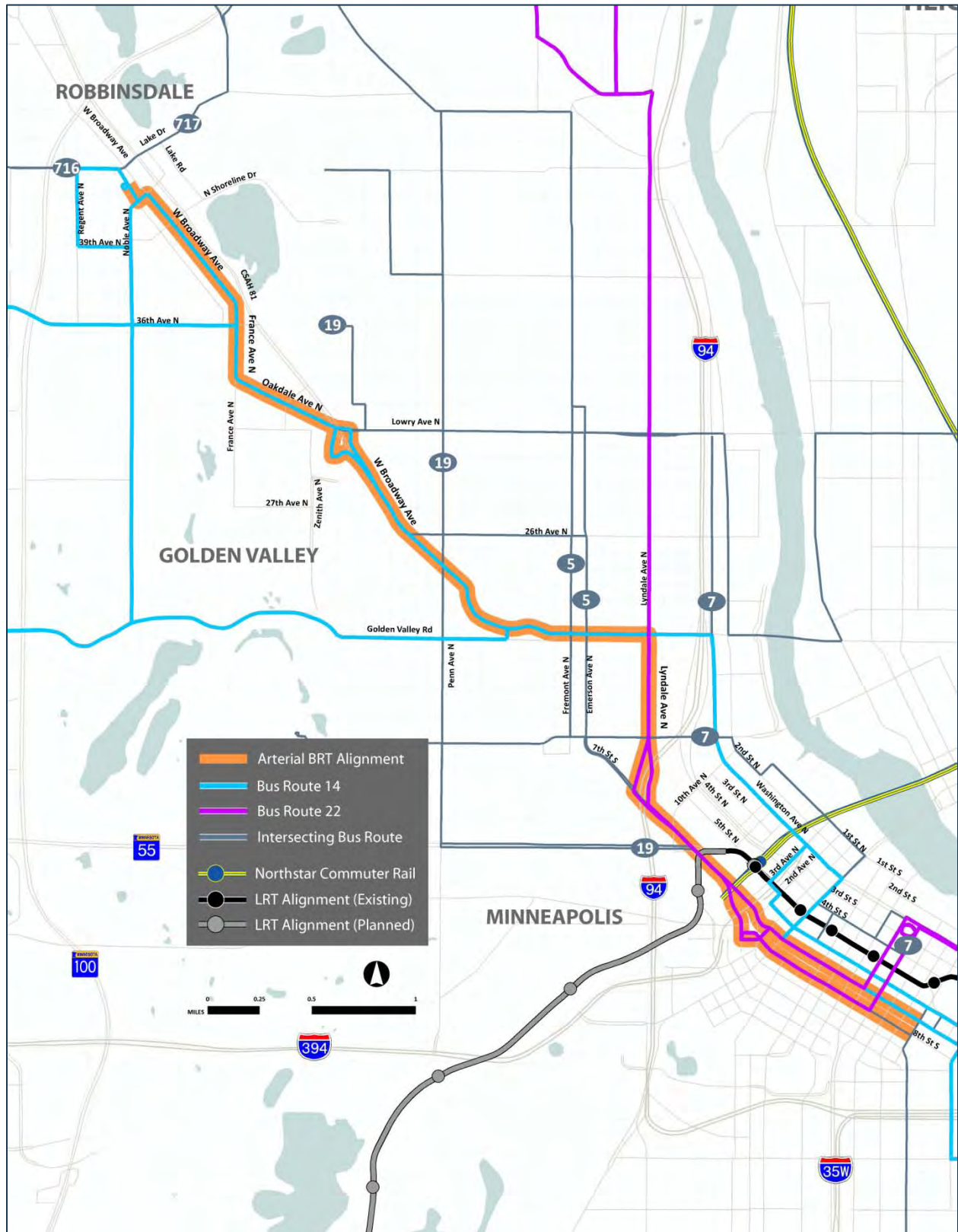
- Robbinsdale Transit Center – Routes 32, 716, 717, 758
- Broadway Avenue/North Memorial Hospital – Route 32
- Broadway Avenue/26th Avenue – Route 5
- Broadway Avenue/Penn Avenue – Route 19
- Broadway Avenue and Fremont/Emerson – Route 5
- Broadway and Lyndale Avenue – Route 22

In addition, a transfer to Route 7 is available at Plymouth Avenue and Lyndale Avenue where the corridor follows Lyndale Avenue.

Three other routes operate on portions of the proposed West Broadway Avenue corridor:

- Route 5 operates on 7th Street south of Lyndale
- Route 22 operates along the alignment from Broadway and Lyndale into downtown Minneapolis
- Route 32 operates on West Broadway from Lowry Avenue to Robbinsdale Transit Center

Figure 23. West Broadway Avenue – Route 14 and Connecting Services





## Service Characteristics and Route Performance

Pertinent Route 14 characteristics, resources, and statistics are noted in Table 25. Daily service statistics are from Metro Transit's September 2010 System Statistics.

**Table 25. Route 14 Service Characteristics, September 2010**

<b>Route 14</b>	<b>Weekday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>Route Characteristics</b>			
Hours of Operation	4:26 a.m.-1:35 a.m.	4:24 a.m.-1:36 a.m.	5:26 a.m.-13:35 a.m.
Frequency (Pk-Mid-Eve)	15-18-20	20-20-30	30-20-30
Trips (one-way)	137	104	93
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	151.4	108.0	91.5
Recovery	27.9	20.1	17.4
Deadhead	<u>16.2</u>	<u>5.8</u>	<u>7.6</u>
Total (Platform)	195.4	133.9	116.5
<b>Daily Miles</b>			
In Service	1932.0	1419.0	1234.1
Deadhead	<u>324.5</u>	<u>127.5</u>	<u>174.7</u>
Total	2256.5	1546.6	1408.8
<b>Bus Requirements</b>			
AM	12	8	5
Midday	8	8	8
PM	13	8	8
Night	8	5	5

Key Route 14 performance indicators for 2009 are shown in Table 26. Figures are from Metro Transit's 2009 Regional Performance Report.

**Table 26. Route 14 Performance, 2009 Annual Totals**

	<b>Weekday</b>	<b>Saturday</b>	<b>Sunday</b>	<b>Total</b>
<b>In-service miles</b>	523,307	83,980	73,430	<b>680,717</b>
<b>In-service hours</b>	40,965	6,437	5,409	<b>52,810</b>
<b>In-service speed (miles per hour)</b>	12.8	13.0	13.6	<b>12.9</b>
<b>Operating cost</b>	\$5,650,287	\$880,696	\$733,112	<b>\$7,264,096</b>
<b>Fare revenue</b>	\$1,631,015	\$158,821	\$121,754	<b>\$1,911,591</b>
<b>Passengers</b>	1,655,864	199,980	146,176	<b>2,002,020</b>
<b>Average daily passengers</b>	6,494	3,846	2,658	<b>0</b>
<b>Average fare per passenger</b>	\$0.98	\$0.79	\$0.83	<b>\$0.87</b>
<b>Total subsidy</b>	\$4,019,272	\$721,875	\$611,358	<b>\$5,352,505</b>
<b>Subsidy per passenger</b>	\$2.43	\$3.61	\$4.18	<b>\$3.41</b>
<b>Passengers per in-service hour</b>	40.42	31.07	27.03	<b>32.84</b>
<b>Passengers per in-service mile</b>	3.16	2.38	1.99	<b>2.94</b>
<b>Farebox recovery ratio</b>	28.9%	18.0%	16.6%	<b>26.3%</b>

### On-Time Performance

Metro Transit defines “on-time” as departing between one minute early and five minutes late. The systemwide on-time performance goal was 88 percent in October 2010. Table 27 depicts Route 14 weekday on-time performance as it compares to the systemwide average.

**Table 27. Route 14 On-Time Performance, October 2010**

	On Time	Late	Early
<b>Route 14</b>	87.4	10.0	2.6
<i>Northbound</i>	88.5	8.8	2.7
<i>Southbound</i>	86.4	11.1	2.5
<b>Systemwide</b>	87.7	9.8	2.5

In October 2010, Route 14 was on time 87.4 percent of the time on weekdays. 10.0 percent of all weekday departures were late while only 2.6 percent were recorded as early. Thus, Route 14’s on-time performance was only 0.3 percent worse than the systemwide average. The northbound direction (88.5 percent on time, 8.8 percent late, 2.7 percent early) performed better than the southbound direction (86.4 percent on time, 11.1 percent late, 2.5 percent early).

Systemwide on-time performance on Saturdays fared slightly poorer than weekdays with 85.0 percent of all trips departing on time, 12.8 percent departing late and 2.2 percent departing early. On Saturdays, Route 14 performed similar to weekdays with 87.7 percent of all trips departing on time (10.5 percent late, 1.8 percent early). Systemwide on-time performance on Sundays was better than Saturdays and nearly identical to weekdays with 87.6 percent of all trips departing on time, 10.3 percent departing late and 2.0 percent departing early. On Sundays, Route 14 performed better than weekdays and Saturdays with 91.2 percent of all trips departing on time (6.8 percent late, 2.0 percent early).

### Stop-Level Ridership

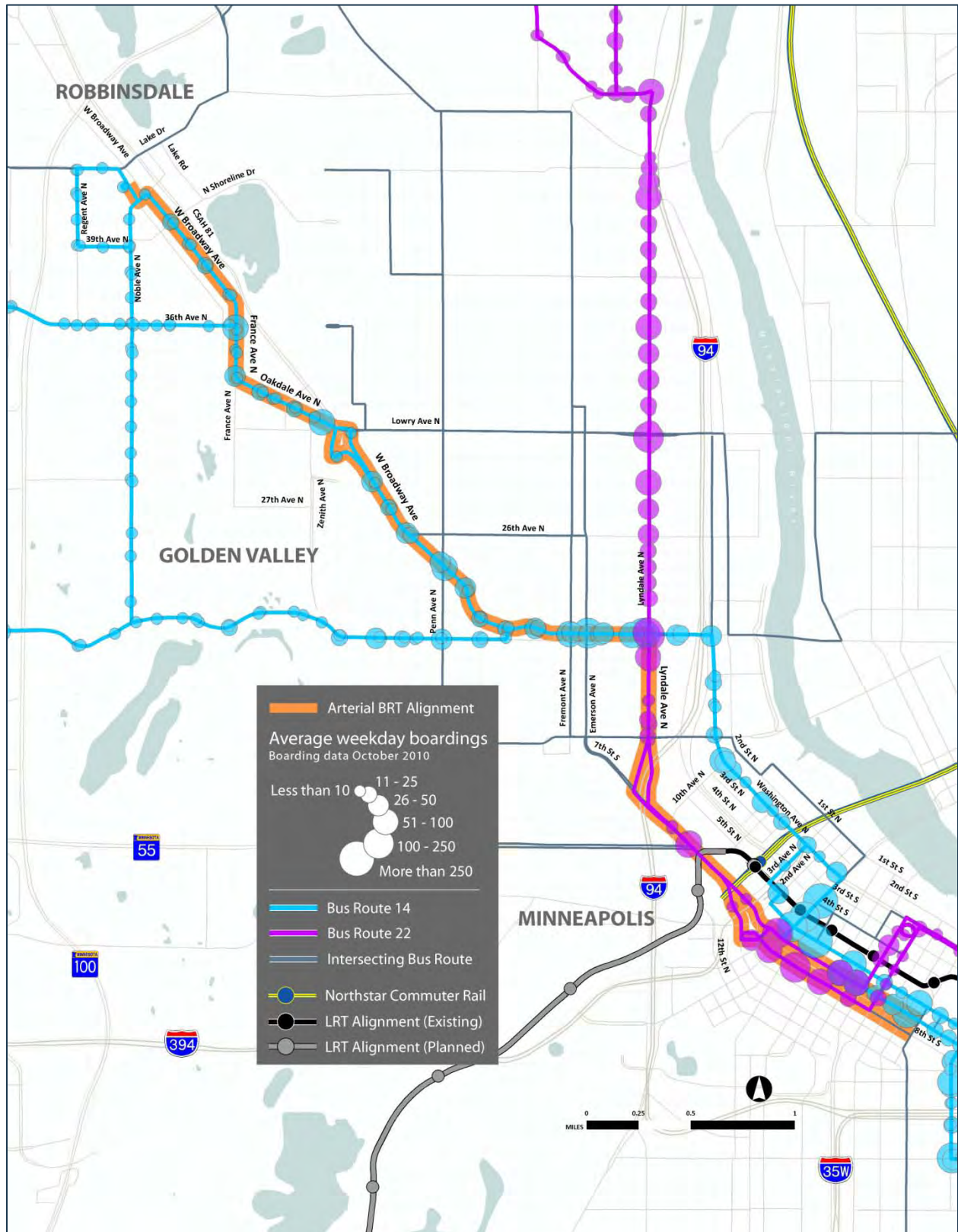
Current Route 14 average daily ridership (October 2010 APC data) is as follows:

- Weekdays: 6,631
- Saturdays: 3,624
- Sundays: 2,685

About 1,305 of the 6,631 weekday boardings on Route 14 are occurring within the defined corridor – Robbinsdale Transit Center to W. Broadway and Lyndale (20 percent of total route ridership). Route 22 operates on the Lyndale/7th Street portion of the corridor. Route 22’s total weekday ridership was 6,129. There were 1,822 boardings on the Lyndale/7th Street portion into downtown Minneapolis. Combined, there are about 3,100 boardings on Routes 14 and 22 within the proposed corridor. This does not include ridership on Routes 5 or 32 that also operate on portions of the corridor.

Figure 24 illustrates weekday boardings by stop for routes operating in the West Broadway corridor.

Figure 24. West Broadway Avenue Corridor Weekday Ridership by Stop, October 2010



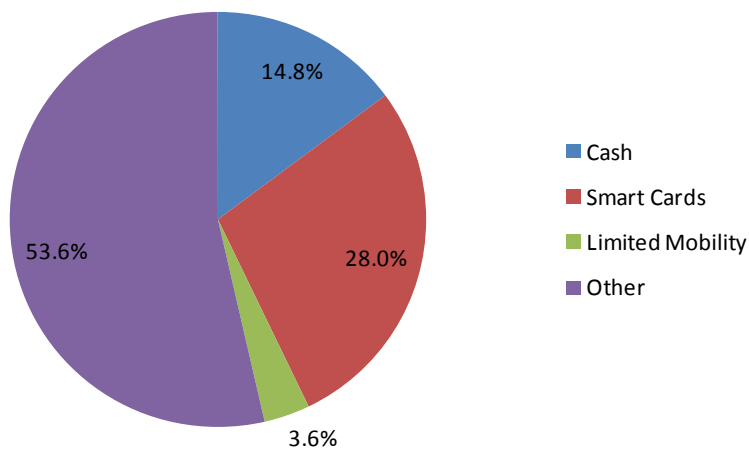
### Ridership by Fare Type/Media

For purposes of isolating fare categories with similar delay characteristics, fare payment methods are aggregated into the following categories:

- Cash
- Limited Mobility (both Farebox and Smartcard)
- Smartcard (not including Limited Mobility)
- Other (includes transfers and other pass payments through the farebox, tokens, and passengers who do not pay)

Figure 25 shows distribution of fare payment for Route 14. Smartcard usage is about 28 percent of total boardings. Limited mobility boardings (both farebox and Smartcard) are 3.6 percent of total boardings. Cash boardings are 14.8 percent. These percentages are fairly typical for urban local routes.

**Figure 25. Route 14 Ridership by Fare Category, October 2010**

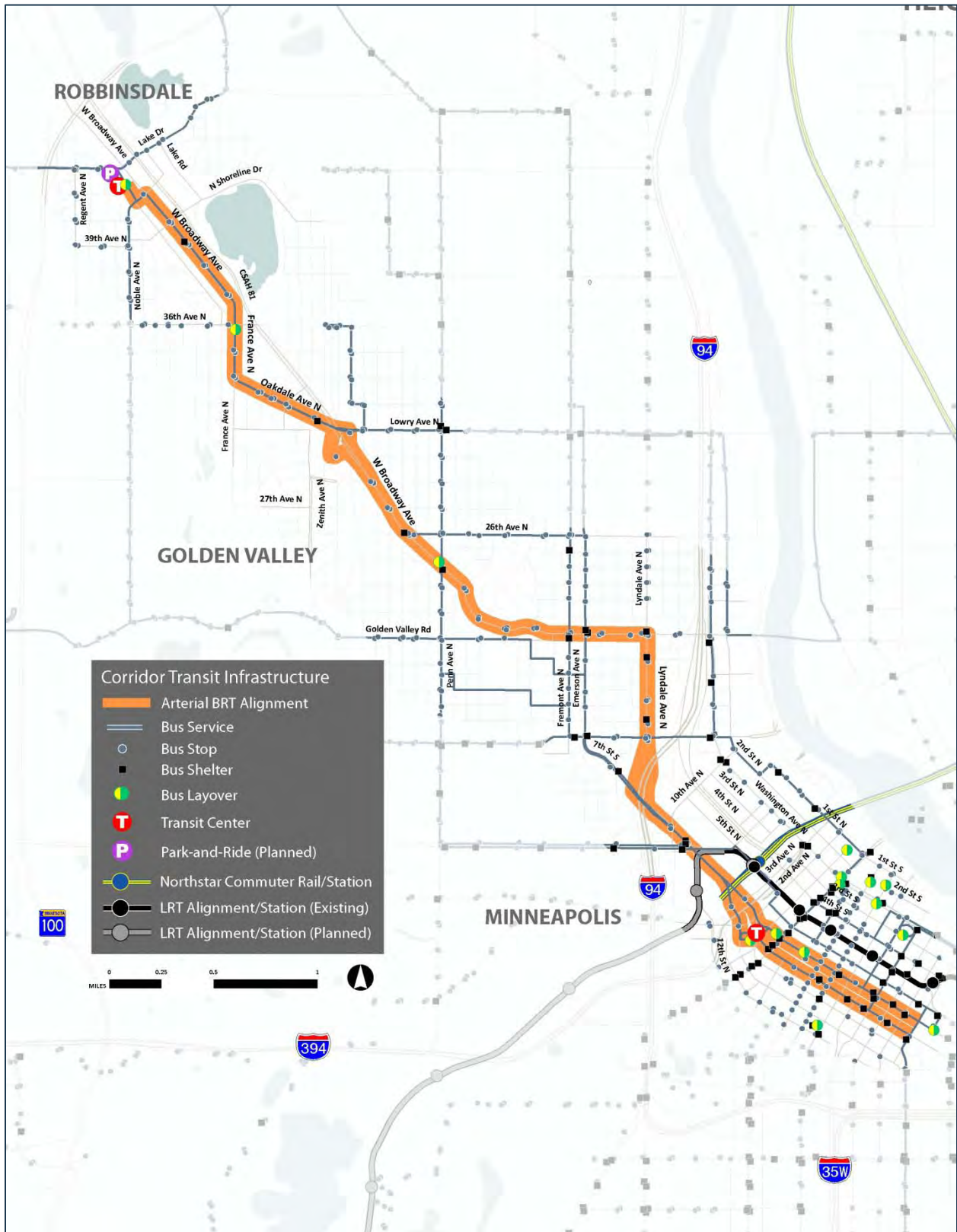


### Transit Infrastructure

Existing transit infrastructure in the West Broadway corridor is shown in Figure 26.

- Bus stops are spaced at approximately 8 per mile throughout the corridor, with stops generally located at every intersection along Lyndale, West Broadway, Oakdale, and France.
- Outside of downtown, passenger waiting shelters are located infrequently throughout the corridor; shelters are located at transfer points (Broadway/Lyndale; Broadway/Fremont-Emerson; Broadway/Penn) and a few other locations.
- Existing layovers are located at both corridor termini, at 7th and Carew in downtown Minneapolis (current Route 19 layover), and at Robbinsdale Transit Center.
- A portion of this corridor, on West Broadway between Penn Avenue and Robbinsdale Transit Center, is also under consideration for LRT/BRT development as the Bottineau Transitway. The other alignment under consideration would complement the West Broadway ABRT line by connecting at the Robbinsdale Transit Center, but would not travel along the same alignment.
- There are no existing park-and-ride facilities in the corridor, although current plans for the Bottineau Transitway include a small park-and-ride at the Robbinsdale Transit Center.

Figure 26. West Broadway Avenue Corridor Existing Transit Infrastructure



## Planned Land Use Changes

### City of Minneapolis (Sector Planner Jim Voll)

General Growth Patterns would occur around the following comprehensive plan land use features:

- Growth Center and Major Retail Center and Transit Station Area: Downtown
- Major Retail Center: West Broadway & Lyndale
- Commercial Corridor: West Broadway, from Lyndale Ave to 26th Ave
- Neighborhood Commercial Node: West Broadway Ave & Penn Ave N

Despite the economic downturn, redevelopment activity and new investment is occurring on West Broadway in a number of locations. Among these is the construction of the new Minneapolis Public Schools headquarters at W Broadway & Girard on the site of an old school, which will move 150 jobs to the center of the commercial corridor. Coupled with the MPS development is a significant new Hennepin County service center immediately to the north/west of the MSP site that could bring another 150 jobs, and significant traffic as a service center. West Broadway has other tremendous opportunities for redevelopment, such as at the Broadway/Lyndale intersection, where redevelopment is unlikely to occur in the short term, but may occur upon implementation of other improvements such as additional nearby development, street reconstruction and streetscaping, and/or implementation of higher quality transit service.

Second, the corridor connects to the downtown through Washington Avenue in a major area of recent and future industrial redevelopment in the Above the Falls area. Most of the industrial redevelopment that has occurred in the last ten years has been successful and is fully occupied. Several additional sites may still be redeveloped, and the “spectacular” transportation access (rail, river, interstate, downtown) lend this area to be highly desirable for job generating investment. Business marketers have identified this area as a high level target for a variety of businesses.

### City of Robbinsdale (Rick Pearson)

The West Broadway corridor was referenced in the City’s Comprehensive Plan, although nothing new was added to the Plan to address the transitway corridor. The properties in the corridor are already developed and no new land use designations were adopted because of the corridor. Mr. Pearson believes that some transit-friendly land use regulations have already been adopted by the City, such as mixed-use zoning and minimal parking requirements for the Robbinsdale downtown area. The only recent large shift in employment in the corridor is North Memorial Health Center’s conversion of the Montgomery Ward property into commercial uses in the area north of the Terrace Mall. A planned new nursing home north of Hubbard Avenue will add 60-90 jobs to the corridor. He expects that about 40 percent of those employees will ride transit to work.

Mr. Pearson believes that the Transit Center at Hubbard Market (downtown) is attracting people to the corridor. He sees that Robbinsdale is primarily a bedroom community and that express service to downtown Minneapolis could generate more transit ridership. He observed that Robbinsdale has a large proportion of seniors as residents and there has been an increase in rental properties as property has transferred ownership. The change in tenure mix of housing in the city may produce more transit riders.

## Hennepin Avenue

### Roadway Conditions

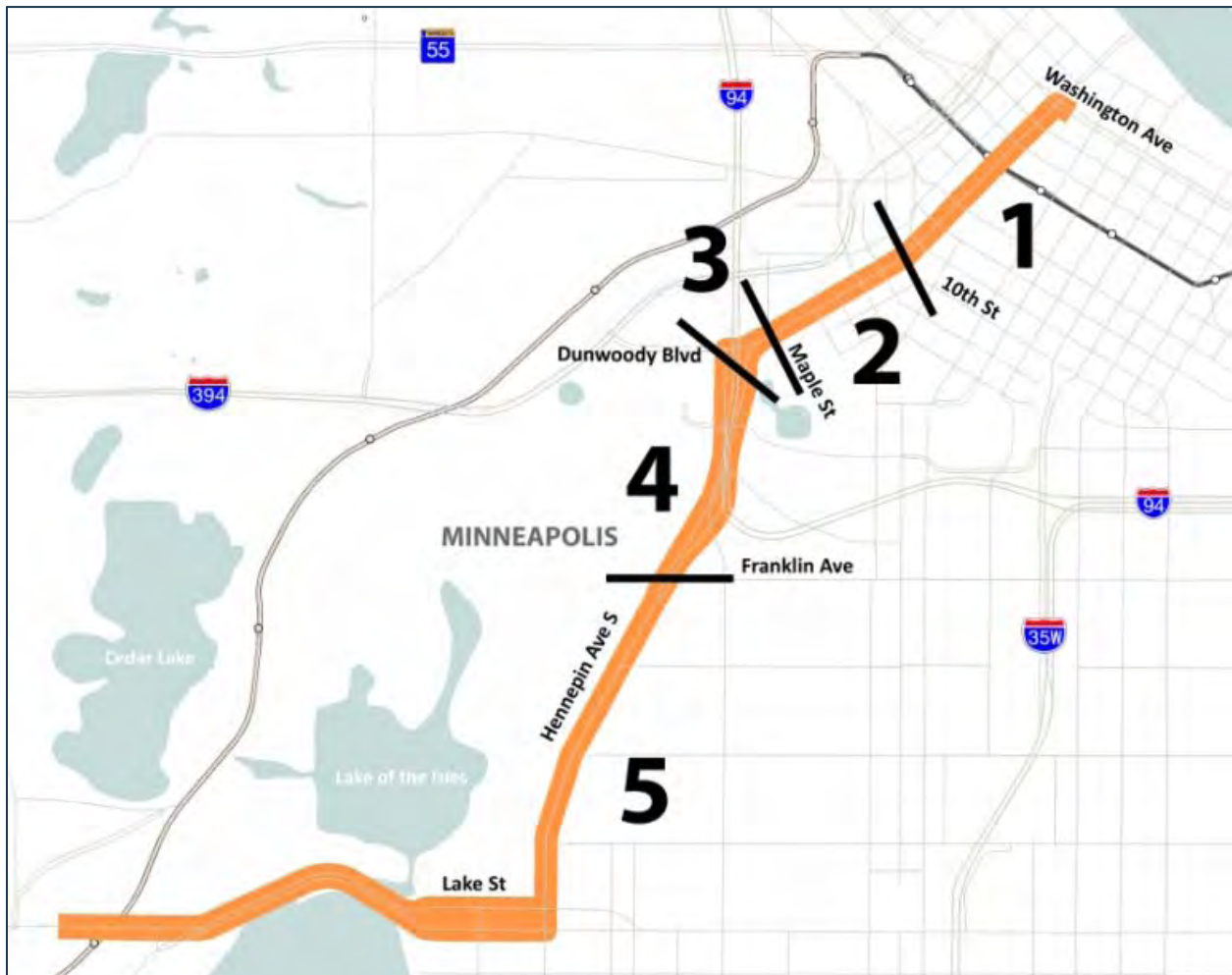
Roadway information was requested from the City of Minneapolis for the Hennepin Avenue corridor. The existing conditions information is summarized by the following segments in Table 28.

- Segment 1: Hennepin Avenue (Washington Avenue to 10th Street)
- Segment 2: Hennepin Avenue (10th Street to Maple Street)
- Segment 3: Hennepin/Dunwoody (Maple Street to Lyndale Avenue)
- Segment 4: Hennepin/Lyndale (Dunwoody Avenue to Franklin Avenue)
- Segment 5: Hennepin Avenue (Franklin Avenue to Lake Street)

Roadway characteristics for Lake Street west of Hennepin Avenue are noted on page 22 for the Lake Street corridor.

Figure 27 is a map of the Hennepin Avenue corridor.

**Figure 27. Hennepin Avenue Corridor**



**Table 28. Hennepin Avenue Roadway Characteristics**

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
1	18,902-21,176		Signalized intersections every block	100	2 lanes/direction	11-14	Yes	No	Yes- outer lane is shared by bus/bike/right turn lane	Yes	Potential streetcar corridor.
2	11,232-23,969		Signalized intersections every block	88	2 lanes/direction	11-14	Yes	Yes	Yes	Yes	Potential streetcar corridor.
3	15,286 SB; 8,566 NB		Signalized intersections		3 lanes NB, 2 lanes SB		Yes	No	No	Yes	Potential streetcar corridor.
4	25,700	28,900	Signalized intersections		2-5 lanes		Yes	No	No	Yes	Potential streetcar corridor.
5	19,094-29,858	29,800-30,800	Signalized intersections every 1-2 blocks	88	2 lanes/direction	10	No	Yes	No	Yes	Potential streetcar corridor.



Signalized intersections in the corridor are located at the following locations (listed from north to south):

- Minneapolis
- Washington at Nicollet Mall
  - Washington at Hennepin
  - Hennepin at 3rd St
  - Hennepin at 4th St
  - Hennepin at 5th St
  - Hennepin at 6th St
  - Hennepin at 7th St
  - Hennepin at 8th St
  - Hennepin at 9th St
  - Hennepin at 10th St
  - Hennepin at 11th St
  - Hennepin at 12th St
  - Hennepin at 13th St
  - Hennepin at Spruce Place
  - Hennepin at 16th St
  - Hennepin/Lyndale at Dunwoody Blvd
  - Hennepin/Lyndale at Vineland
  - Hennepin/Lyndale at Groveland
  - Hennepin at I-94 Ramp (NB only)
  - Hennepin at Franklin
  - Hennepin at 22nd St
  - Hennepin at 24th St
  - Hennepin at 25th St
  - Hennepin at 26th St
  - Hennepin at 27th St
  - Hennepin at 28th St
  - Hennepin at 29th St (Uptown Transit Station)
  - Hennepin at Lagoon
  - Lake at Hennepin (NB)
  - Lake/Lagoon at Humboldt
  - Lake at Irving
  - Lake/Lagoon at Calhoun Pkwy
  - Lake St at Thomas
  - Lake St at Dean Pkwy
  - Lake St at Excelsior Blvd
  - Lake St at Market Plaza
  - Lake St at Drew
  - Lake St at France

## Existing Transit Conditions – Routes 6/12

The proposed Hennepin Avenue corridor follows Hennepin Avenue from downtown Minneapolis to Lake Street, and then continues west on the future West Lake Station on the Southwest LRT line (west of Excelsior Boulevard). Routes 6 and 12 are the primary Metro Transit routes that serve this corridor; Route 17 also operates in a portion of the corridor. The corridor alignment and existing transit services are shown in Figure 28.

**Route 6** begins in downtown Minneapolis and follows Hennepin Avenue to 36th Street. (Some Route 6 trips begin at the University of Minnesota and travel on the 4th/University one-way pair across Hennepin Avenue into downtown Minneapolis.) At Richfield and 39th the alignment splits into various route patterns, with service to Edina and Bloomington. Weekday service frequencies in the proposed corridor generally range from 6 to 10 minutes, with 15-minute frequencies in the evenings. Saturday frequencies range from 10 to 15 minutes. Sunday frequencies are 15 minutes. The portion of Route 6 between 36th Street and downtown is part of Metro Transit's Hi-Frequency Network.

Within the proposed corridor, Route 6's alignment serves downtown Minneapolis and commercial and medium- to high-density residential land uses along Hennepin Avenue, including the commercial node at Hennepin and Lake. The Uptown Transit Station is located on Hennepin, just north of Lake Street. Route 6 continues south, but the proposed corridor turns west at Lake Street.

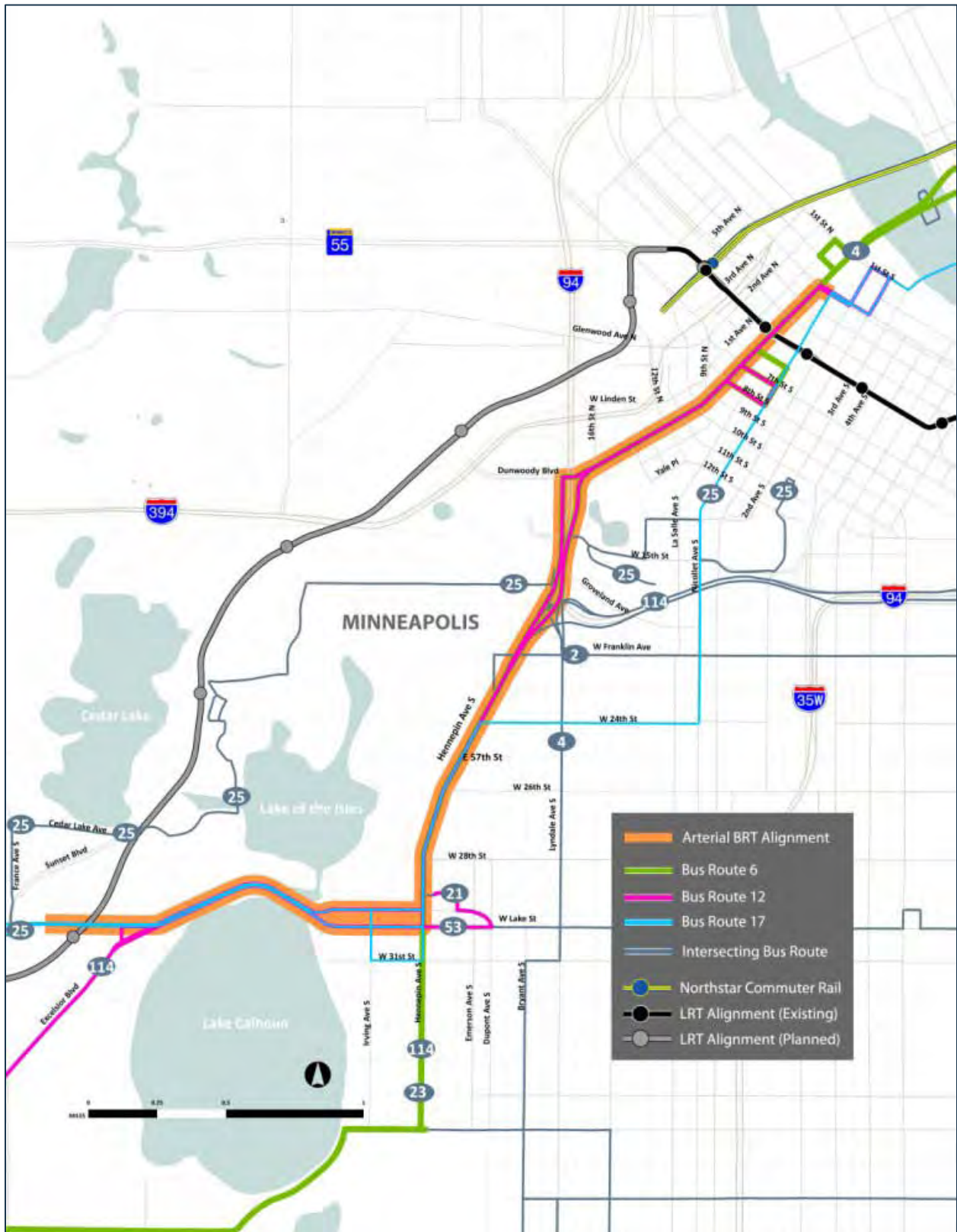
Route transfer opportunities to and from Route 6 within the defined Hennepin Avenue corridor (outside of downtown Minneapolis) are as follows:

- Hennepin/Douglas – Route 25
- Hennepin/Franklin– Route 2
- Hennepin/24th – Route 17
- Uptown Transit Station – Routes 12, 17, 21, 23, 53, 114, 115

**Route 12** begins in downtown Minneapolis during peak periods and follows Hennepin Avenue to Lake Street. The route turns west and follows Lake Street and Excelsior Boulevard to Minnetonka. Route 12 serves the same portion of Hennepin Avenue as Route 6. Midday, evening, and weekend service operates between Uptown Transit Station and Minnetonka and does not travel through downtown. Peak period, peak direction trips on Route 12 operate non-stop between the Uptown Transit Station and Franklin Avenue. Weekday service frequencies generally range from 15 to 20 minutes. Weekday midday and evening frequencies are 30 minutes. Saturday service frequencies are 30 minutes and Sunday frequencies are 45 minutes.

A general description of the Hennepin Avenue corridor was provided for Route 6. West of Hennepin Avenue, Lake Street is situated on the north side of Lake Calhoun. Several high-density condominium and apartment complexes are located along Lake Street, and the Calhoun Village shopping center/Whole Foods shopping area is located in the general vicinity of Lake Street and Excelsior Blvd. The proposed corridor terminates at the future site of the West Lake Station on the Southwest LRT corridor. Route 12 continues to the west of this location.

Figure 28. Hennepin Avenue Corridor Routes and Connecting Services



## Service Characteristics and Route Performance

Pertinent route 6 and 12 characteristics, resources, and statistics are noted in Table 29. Daily service statistics are from Metro Transit's September 2010 System Statistics.

**Table 29. Route 6 and 12 Service Characteristics, September 2010**

<b>Route 6</b>	<b>Weekday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>Route Characteristics</b>			
Hours of Operation	4:22 a.m.-2:25 a.m.	4:23 a.m.-2:26 a.m.	4:56 a.m.-2:26 a.m.
Frequency (Pk-Mid-Eve)	9-11-15	15-15-15	15-15-15
Trips (one-way)	213	164	139
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	197.0	151.1	121.8
Recovery	40.4	31.0	28.1
Deadhead	<u>24.6</u>	<u>14.3</u>	<u>10.6</u>
Total (Platform)	262.0	196.3	160.4
<b>Daily Miles</b>			
In Service	2392.3	1924.8	1634.6
Deadhead	<u>571.8</u>	<u>354.7</u>	<u>250.8</u>
Total	2964.1	2279.4	1885.5
<b>Bus Requirements</b>			
AM	17	9	9
Midday	12	8	9
PM	20	15	10
Night	9	9	9
<b>Route 12</b>	<b>Weekday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>Route Characteristics</b>			
Hours of Operation	5:07 a.m.-1:36 a.m.	5:10 a.m.-12:57 a.m.	5:21 a.m.-11:52 p.m.
Frequency (Pk-Mid-Eve)	18-30-30	30-30-30	45-45-45
Trips (one-way)	95	71	45
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	74.6	39.1	23.8
Recovery	17.6	13.1	9.7
Deadhead	<u>8.4</u>	<u>2.2</u>	<u>1.7</u>
Total (Platform)	100.6	54.4	35.2
<b>Daily Miles</b>			
In Service	1041.3	628.3	400.8
Deadhead	<u>152.1</u>	<u>39.3</u>	<u>22.3</u>
Total	1193.4	667.6	423.1
<b>Bus Requirements</b>			
AM	8	3	2
Midday	3	3	2
PM	10	3	2
Night	3	3	2

Key Route 6 and 12 performance indicators for 2009 are shown in Table 30 and Table 31. Figures are from Metro Transit's 2009 Regional Performance Report.

**Table 30. Route 6 Performance, 2009 Annual Totals**

	Weekday	Saturday	Sunday	Total
In-service miles	645,610	100,264	94,875	<b>840,749</b>
In-service hours	52,395	7,705	7,007	<b>67,108</b>
In-service speed (miles per hour)	12.3	13.0	13.5	<b>12.5</b>
Operating cost	\$7,376,269	\$1,086,554	\$1,001,592	<b>\$9,464,414</b>
Fare revenue	\$2,527,651	\$251,986	\$193,092	<b>\$2,972,729</b>
Passengers	2,263,990	276,705	206,113	<b>2,746,808</b>
Average daily passengers	8,878	5,321	3,748	--
Average fare per passenger	\$1.12	\$0.91	\$0.94	<b>\$0.99</b>
Total subsidy	\$4,848,618	\$834,568	\$808,500	<b>\$6,491,685</b>
Subsidy per passenger	\$2.14	\$3.02	\$3.92	<b>\$3.03</b>
Passengers per in-service hour	43.21	35.91	29.41	<b>36.18</b>
Passengers per in-service mile	3.51	2.76	2.17	<b>3.27</b>
Farebox recovery ratio	34.3%	23.2%	19.3%	<b>31.4%</b>

**Table 31. Route 12 Performance, 2009 Annual Totals**

	Weekday	Saturday	Sunday	Total
In-service miles	265,869	32,457	23,814	<b>322,140</b>
In-service hours	19,114	1,991	1,377	<b>22,482</b>
In-service speed (miles per hour)	13.9	16.3	17.3	<b>14.3</b>
Operating cost	\$2,741,847	\$297,826	\$219,466	<b>\$3,259,138</b>
Fare revenue	\$751,521	\$42,903	\$30,941	<b>\$825,365</b>
Passengers	602,980	49,105	32,638	<b>684,723</b>
Average daily passengers	2,365	944	593	--
Average fare per passenger	\$1.25	\$0.87	\$0.95	<b>\$1.02</b>
Total subsidy	\$1,990,326	\$254,923	\$188,525	<b>\$2,433,773</b>
Subsidy per passenger	\$3.30	\$5.19	\$5.78	<b>\$4.76</b>
Passengers per in-service hour	31.55	24.66	23.70	<b>26.64</b>
Passengers per in-service mile	2.27	1.51	1.37	<b>2.13</b>
Farebox recovery ratio	27.4%	14.4%	14.1%	<b>25.3%</b>

### On-Time Performance

Metro Transit defines “on-time” as departing between one minute early and five minutes late. The systemwide on-time performance goal was 88 percent in October 2010. Table 32 depicts Route 6 and 12 weekday on-time performance compared to the systemwide average.

**Table 32. Route 6 and 12 On-Time Performance, October 2010**

	On Time	Late	Early
<b>Route 6</b>	85.9	12.4	1.7
<i>Northbound</i>	85.3	12.7	2.0
<i>Southbound</i>	86.5	12.2	1.3
<b>Route 12</b>	86.3	11.9	1.9
<i>Eastbound</i>	88.4	9.7	1.9
<i>Westbound</i>	83.9	14.2	1.8
<b>Systemwide</b>	87.7	9.8	2.5

In October 2010, Route 6 was on-time 85.9 percent of the time on weekdays; 12.4 percent of all weekday departures were late while 1.7 percent were recorded as early. Thus, Route 6's on-time performance was only 1.8 percentage points below the systemwide average. The southbound direction performed slightly better than the northbound direction.

In October 2010, Route 12 was on-time 86.3 percent of the time on weekdays; 11.9 percent of all weekday departures were late while 1.9 percent were recorded as early. Thus, Route 12's on-time performance was only 1.4 percentage points below the systemwide average. The eastbound direction performed better than the westbound direction.

Systemwide on-time performance on Sundays was better than Saturdays and nearly identical to weekdays with 87.6 percent of all trips departing on time, 10.3 percent departing late and 2.0 percent departing early. On Sundays, Route 6 performed better than weekdays and Saturdays with 89.2 percent of all trips departing on time (8.5 percent late, 2.3 percent early). Route 12 performed similarly with 84.0 percent of all trips departing on time (13.1 percent late, 2.9 percent early).

Systemwide on-time performance on Saturdays fared slightly poorer than weekdays with 85.0 percent of all trips departing on time, 12.8 percent departing late and 2.2 percent departing early. Route 6 also performed worse on Saturdays with 78.9 percent of all trips departing on time (19.6 percent late, 1.5 percent early). Likewise, Route 12 performed worse on Saturdays as well with 82.2 percent of all trips departing on time (15.4 percent late, 2.4 percent early).

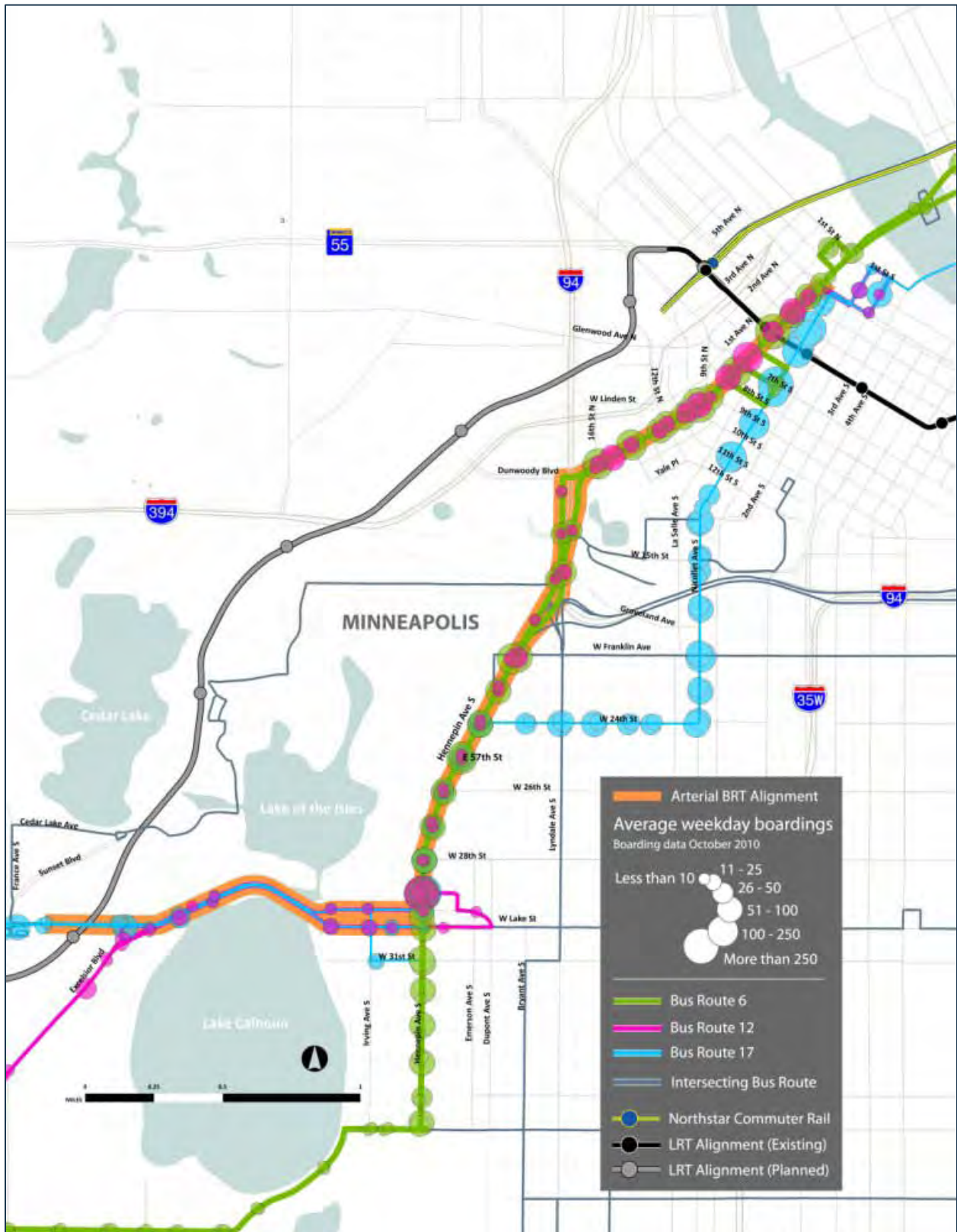
### Stop-Level Ridership

Current average daily ridership for routes 6 and 12 (October 2010 APC data) is as follows:

- Route 6 – Weekdays: 9,485
- Route 6 – Saturdays: 5,587
- Route 6 – Sundays: 3,806
- Route 12 – Weekdays: 2,418
- Route 12 – Saturdays: 977
- Route 12 – Sundays: 631

About 5,855 weekday boardings on Route 6 occur within the defined Hennepin Avenue corridor. Another 1,392 of the Route 12 boardings occur within the defined BRT corridor. Route 17 also operates on a portion of Hennepin Avenue and Lake Street, with 1,018 boardings. Thus, total weekday boarding activity within the defined corridor is approximately 8,300. Figure 29 illustrates weekday boardings by stop for routes operating in the Hennepin Avenue corridor.

Figure 29. Hennepin Avenue Corridor Weekday Ridership by Stop, October 2010



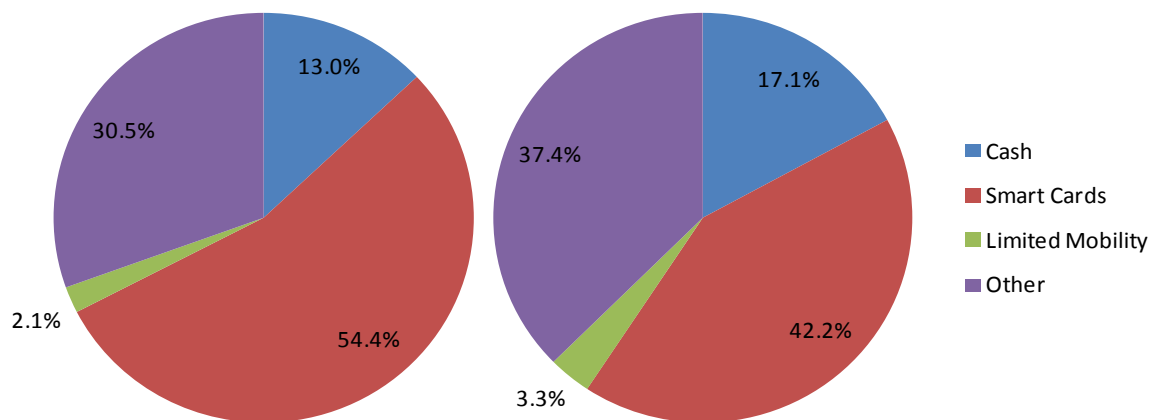
### Ridership by Fare Type/Media

For purposes of isolating fare categories with similar delay characteristics, fare payment methods are aggregated into the following categories:

- Cash
- Limited Mobility (both Farebox and Smartcard)
- Smartcard (not including Limited Mobility)
- Other (includes transfers and other pass payments through the farebox, tokens, and passengers who do not pay)

Figure 30 shows distribution of fare payment for routes 6 (left) and 12 (right).

**Figure 30. Route 6 (left) and 12 (right) Ridership by Fare Category, October 2010**



Route 6 Smartcard usage is about 54 percent of total boardings, which is well above the average for Urban Local routes. Limited mobility boardings (both farebox and smartcard) are 2.1 percent of total boardings. Cash boardings are 13.0 percent. Route 12 Smartcard usage is about 42 percent of total boardings, which is above the typical average for Urban Local routes. Limited mobility boardings (both farebox and Smartcard) are 3.3 percent of total boardings. Cash boardings are 17.1 percent.

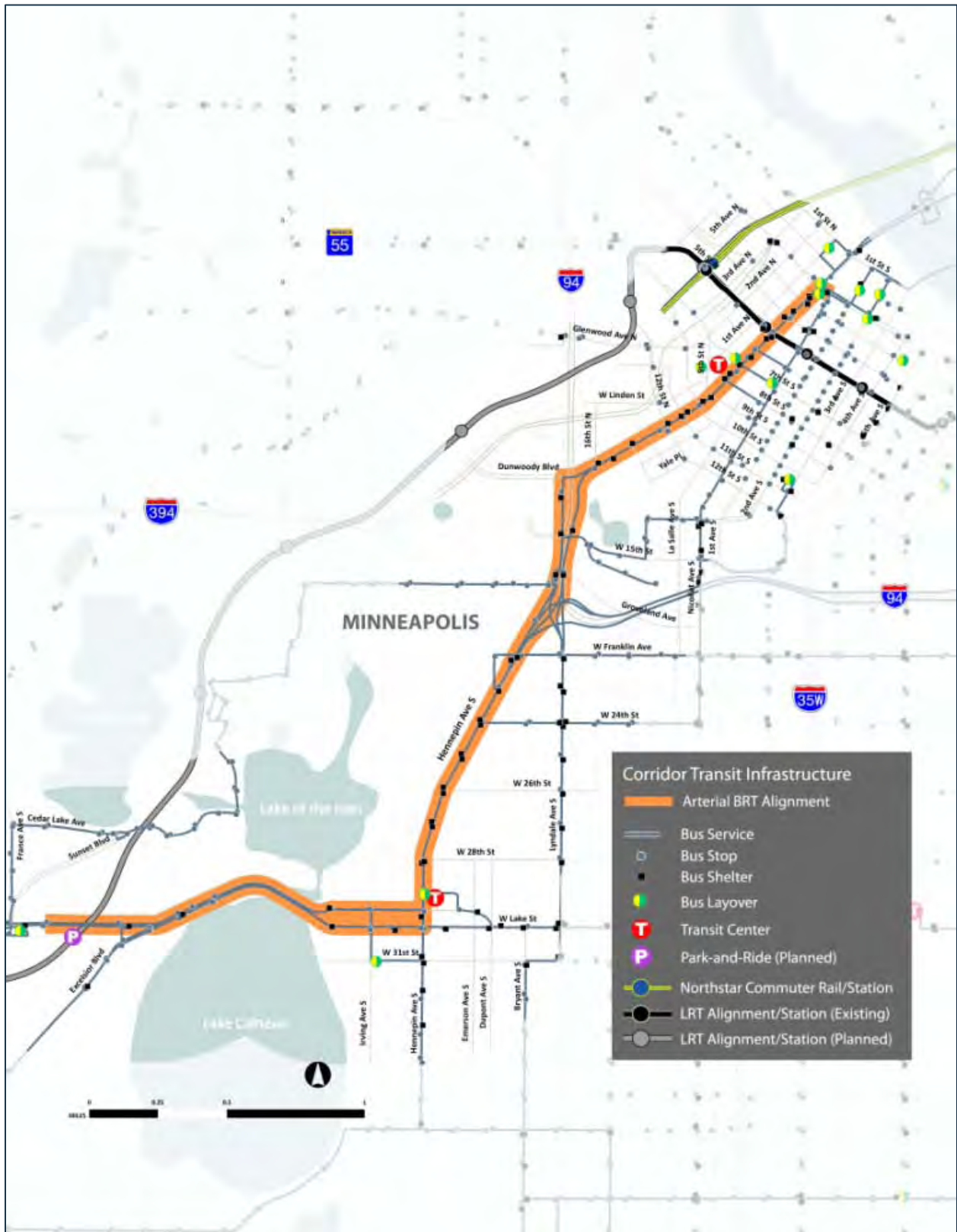
### Transit Infrastructure

Existing transit infrastructure in the Hennepin Avenue corridor is shown in Figure 31.

- Bus stops are spaced at approximately 6-8 per mile on Hennepin Avenue; stop spacing is wider on Lake Street/Lagoon Avenue, with a roughly ½-mile stretch north of Lake Calhoun with no stops.
- Passenger waiting shelters are located at most stops in both directions along the corridor.
- Existing layovers are located at both corridor termini; on the west end, ABRT vehicles would lay over at the Route 17 terminal at Lake/France, and ABRT service would terminate at the North Terminal (Nicollet Hotel Block) in downtown Minneapolis.
- A future park-and-ride is planned for the West Lake Station at the western terminal of the corridor.



Figure 31. Hennepin Avenue Corridor Existing Transit Infrastructure



## Planned Land Use Changes

### City of Minneapolis (Sector Planner Amanda Arnold)

General Growth Patterns would occur around the following comprehensive plan land use features:

- Growth Center and Major Retail Center and Activity Center and Transit Station Area: Downtown
- Activity Center: Uptown
- Commercial Corridor: Hennepin Ave, from Dunwoody Boulevard to Lake Street

The Hennepin Avenue corridor is not likely to see substantial changes to housing density, job intensity, or existing land uses. The vacancy rate is low, the parcels are small and ownership is mostly fragmented, and lots are shallow. Portions of the corridor already have fairly high housing density that is unlikely to be redeveloped, and very few opportunities to convert low density residential or commercial.

## Nicollet Avenue

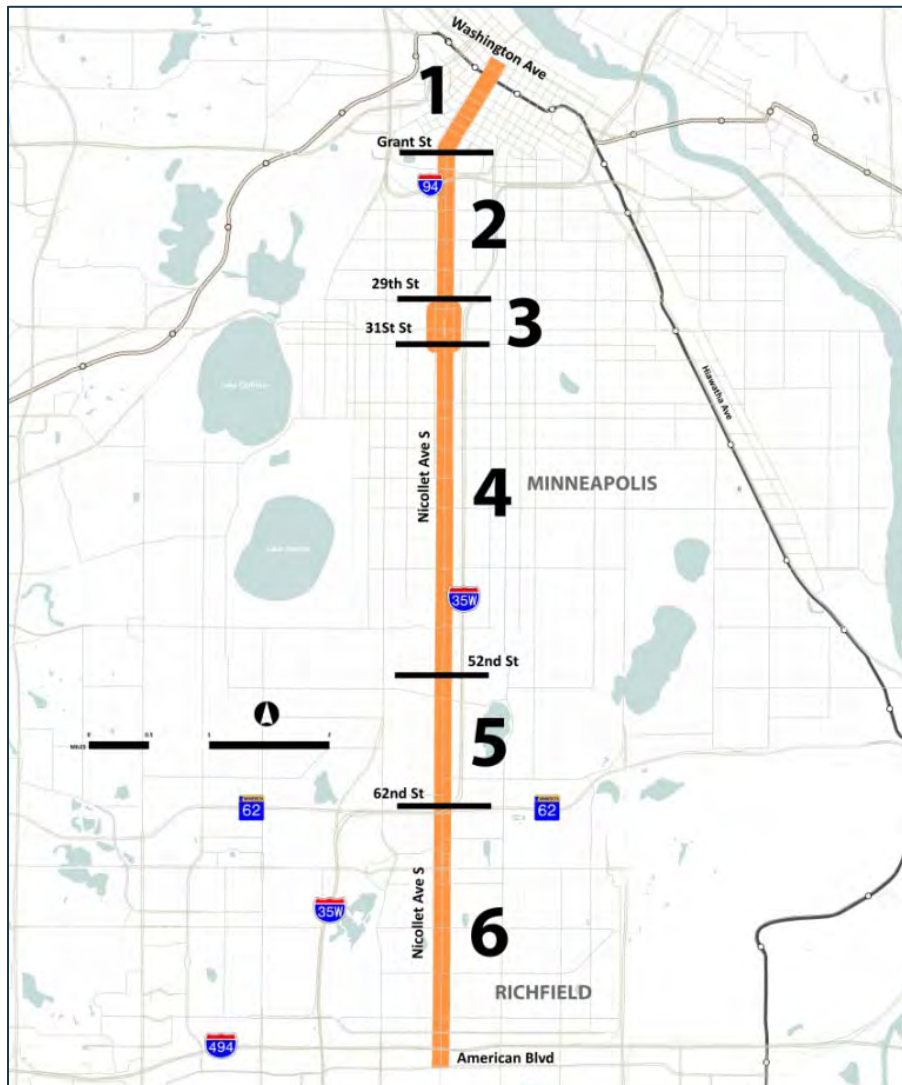
### Roadway Conditions

Roadway information was requested from the cities of Minneapolis and Richfield for the Nicollet Avenue corridor. Existing conditions information is summarized by the following segments in Table 33.

- Segment 1: Nicollet Mall (Washington Avenue to Grant Street)
- Segment 2: Nicollet Avenue (Grant Street to 29th Street)
- Segment 3: Blaisdell Avenue/29th Street/31st Street/1st Avenue
- Segment 4: Nicollet Avenue (31st Street to 52nd Street)
- Segment 5: Nicollet Avenue (52nd Street to 62nd Street )
- Segment 6: Nicollet Avenue (62nd Street to American Boulevard)

Figure 32 is a map of the Nicollet Avenue corridor.

**Figure 32. Nicollet Avenue Corridor**



**Table 33. Nicollet Avenue Roadway Characteristics**

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
1	--	--	Signalized intersections on every block	80	1 lane/ direction; transit only	13	No	No	No	Yes	None identified.
2	5,627-11,609	12,600	Signalized intersections every two blocks	80	2	11	Yes	Yes	No	Yes	None identified.
3	2,323 on 29th St; 8,582 on Blaisdell Ave; 8,014 on 1st Ave	9,200-11,000	Signalized intersections on every block	74 on 29th St; 80 on Blaisdell Ave; 60 on 1st Ave	3 on 29th St, Blaisdell Ave, and 1st Ave; 2 lanes/ direction on 31st Ave	11-15	No	Parking on Blaisdell Ave and 31st St	Yes- on Blaisdell Ave	Yes	None identified.
4	11,031-14,247	7,800-9,900	Signalized intersection every 2-4 blocks	80	2	15	No	Yes	No	Yes	Nicollet Avenue reconstruction between 31st Street and 40th Street.
5	20,129	9,900-14,700	Signalized intersection every 2-4 blocks	66	2	12	Yes	Yes	No	Yes	None identified.
6	11,500-14,600	15,500-17,800	Signalized intersections		2 lanes/ direction		No	No	No	Yes	None identified.

Signalized intersections in the corridor are located at the following locations (listed from north to south):

- |             |  |             |  |
|-------------|--|-------------|--|
| Minneapolis | <ul style="list-style-type: none"><li>• Nicollet Mall at Washington</li><li>• Nicollet Mall at 3rd St</li><li>• Nicollet Mall at 4th St</li><li>• Nicollet Mall at 5th St</li><li>• Nicollet Mall at 6th St</li><li>• Nicollet Mall at 7th St</li><li>• Nicollet Mall at 8th St</li><li>• Nicollet Mall at 9th St</li><li>• Nicollet Mall at 10th St</li><li>• Nicollet Mall at 11th St</li><li>• Nicollet Mall at 12th St</li><li>• Nicollet Mall at 13th St</li><li>• Nicollet Mall at Grant St</li><li>• Nicollet at 15th St</li><li>• Nicollet at 18th St</li><li>• Nicollet at 19th St</li><li>• Nicollet at Franklin</li><li>• Nicollet at 24th St</li><li>• Nicollet at 26th St</li><li>• Nicollet at 28th St</li><li>• Blaisdell at 29th St (SB)</li><li>• Blaisdell at Lake St (SB)/1st at Lake St (NB)</li><li>• Blaisdell at 31st St (SB)/1st at 31st St (NB)</li><li>• Nicollet at 31st St</li><li>• Nicollet at 34th St</li><li>• Nicollet at 35th St</li><li>• Nicollet at 36th St</li><li>• Nicollet at 38th St</li><li>• Nicollet at 40th St</li><li>• Nicollet at 42nd St</li><li>• Nicollet at 46th St</li><li>• Nicollet at 48th St</li><li>• Nicollet at 50th St</li><li>• Nicollet at 54th St</li><li>• Nicollet at Diamond Lake Road</li><li>• Nicollet at 58th St</li><li>• Nicollet at 59th St</li><li>• Nicollet at 60th St</li><li>• Nicollet at 61st St</li></ul> | Richfield   | <ul style="list-style-type: none"><li>• Nicollet at 65th St W</li><li>• Nicollet at 66th</li><li>• Nicollet at 67th</li><li>• Nicollet at 70th</li><li>• Nicollet at 76th</li><li>• Nicollet at 77th</li><li>• Nicollet at I-494 WB entrance</li></ul> |
|             |  | Bloomington | <ul style="list-style-type: none"><li>• Nicollet at I-494 EB entrance</li><li>• Nicollet at American Blvd</li></ul>  |

## Existing Transit Conditions – Route 18

The proposed Nicollet Avenue corridor begins in downtown Minneapolis and follows Nicollet Avenue to American Boulevard, south of I-494. Route 18 is the primary Metro Transit route that serves this corridor. The corridor alignment and existing transit services are shown in Figure 33. Route 18 begins in downtown Minneapolis. Northbound trips operating north of Grant Street provide free downtown rides as part of the Nicollet Mall Free Ride service. South of downtown Minneapolis, Route 18 travels south on Nicollet Avenue to Bloomington. Nicollet Avenue has a break at Lake Street, where the street grid is broken by the Kmart shopping center. Between 31st Street and the Midtown Greenway (29th Street) southbound buses deviate to Blaisdell Avenue and northbound buses deviate to 1st Avenue.

Route 18 includes a number of shortline service patterns; as a result, service frequencies diminish on Route 18 as the alignment travels south. In general, average weekday service frequencies for various segments of Nicollet Avenue are as follows:

- Downtown to Nicollet/46th Street – 8 minutes peak/midday (some trips run on Grand Avenue)
- Nicollet/46th to Nicollet/American Boulevard – 15 minutes peak and midday
- Nicollet/American Boulevard to south Bloomington – 30 minutes peak and midday

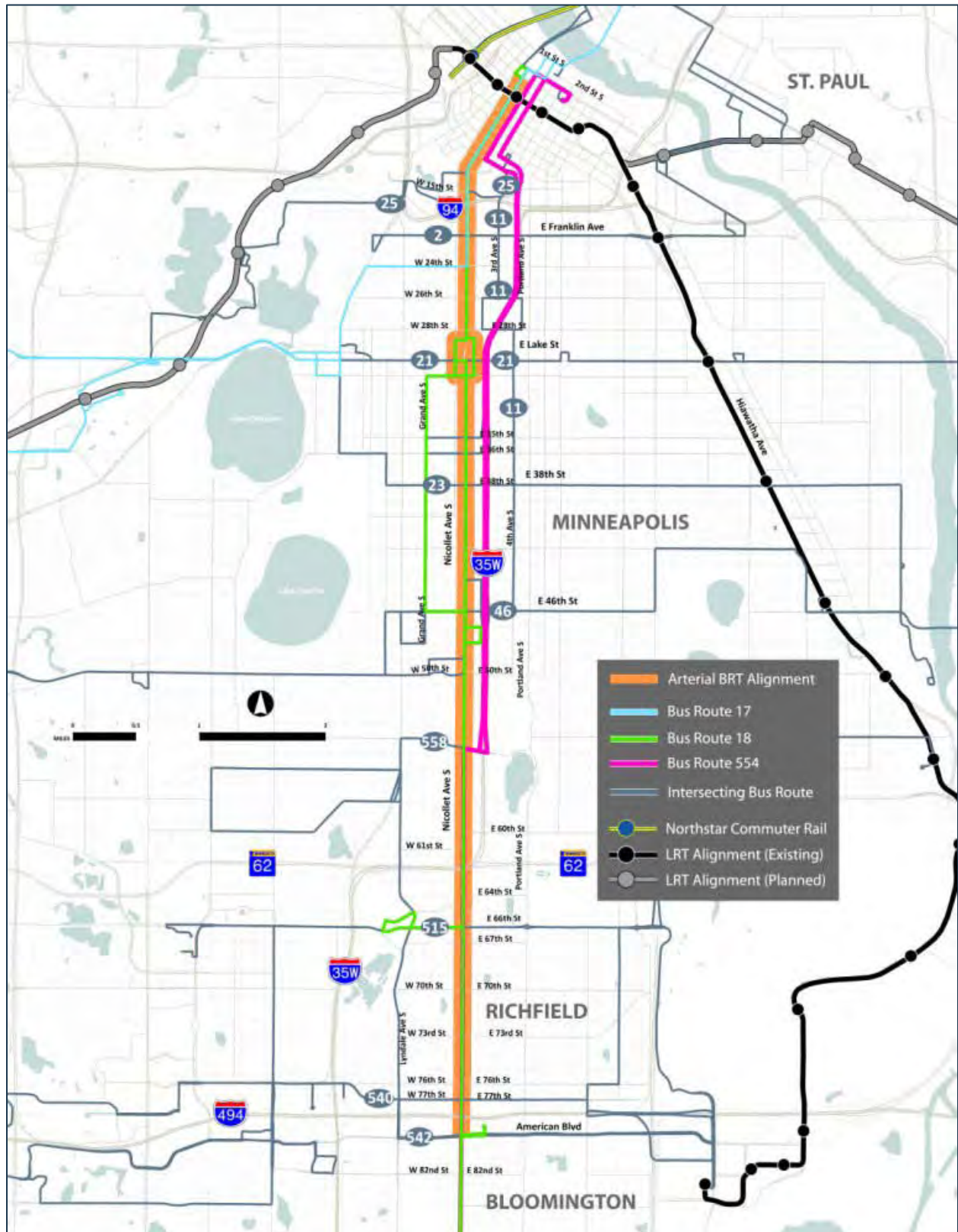
Saturday frequencies are generally 8 to 12 minutes and Sunday frequencies are generally 10 to 20 minutes. North of 66th Street, Route 18 is part of Metro Transit's Hi-Frequency Network.

Route 18 provides service to the heart of downtown Minneapolis. South of I-94, Nicollet Avenue is primarily commercial, with a Kmart-anchored shopping center at Lake Street (where Nicollet Avenue terminates between the Midtown Greenway Trail and Lake Street). The route's alignment continues south from Lake Street to the I-35W and 46th Street. Adjacent land uses in this segment transition to medium-density residential, with commercial activity at major cross streets. Washburn High School and Ramsey International Fine Arts School are located at 49th Street. Cub Foods is located at 60th Street and the Hub Shopping Center is located at 66th Street. The Academy of the Holy Angels School is located just south of 60th Street. Commercial and office land uses are located near the Nicollet/I-494 interchange.

Route transfer opportunities to and from Route 18 outside downtown Minneapolis and within the defined corridor are as follows:

- Nicollet/Franklin – Route 2
- Nicollet/24th Street – Route 17
- Nicollet/Lake Street – Routes 21, 53
- Nicollet/38th Street – Route 23
- Nicollet/46th Street – Routes 46, 146
- Nicollet/50th Street – Routes 158, 568
- Nicollet/54th Street – Routes 156, 554, 558
- Nicollet/66th Street – Route 515
- Nicollet/77th Street – Route 540
- Nicollet/American Boulevard – Route 542

Figure 33. Nicollet Avenue Corridor Routes and Connecting Services



Two other routes operate on portions of the proposed Nicollet Avenue corridor:

- Route 17 operates on Nicollet Avenue between downtown and 24th Street
- Route 554 operates on Nicollet Avenue between American Boulevard and 54th Street, and then runs express to downtown.

### Service Characteristics and Route Performance

Pertinent Route 18 characteristics, resources, and statistics are noted in Table 34. Daily service statistics are from Metro Transit's September 2010 System Statistics.

**Table 34. Route 18 Service Characteristics, September 2010**

Route 18	Weekday	Saturday	Sunday
<b>Route Characteristics</b>			
Hours of Operation	4:13 a.m.-2:42 a.m.	4:34 a.m.-2:41 a.m.	4:21 a.m.-2:40 a.m.
Frequency (Pk-Mid-Eve)	8-8-15	AM 12/PM 8-8-15	20-10-15
Trips (one-way)	280	236	179
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	210.5	174.1	125.4
Recovery	48.7	42.6	28.9
Deadhead	<u>16.2</u>	<u>8.2</u>	<u>9.3</u>
Total (Platform)	275.4	224.9	163.6
<b>Daily Miles</b>			
In Service	2285.8	2020.0	1510.6
Deadhead	<u>270.2</u>	<u>151.7</u>	<u>165.8</u>
Total	2556.0	2171.7	1676.4
<b>Bus Requirements</b>			
AM	16	12	7
Midday	15	15	11
PM	20	15	11
Night	8	8	6

Key Route 18 performance indicators for 2009 are shown in Table 35. Figures are from Metro Transit's 2009 Regional Performance Report.

**Table 35. Route 18 Performance, 2009 Annual Totals**

	Weekday	Saturday	Sunday	Total
In-service miles	581,963	103,019	87,370	<b>772,352</b>
In-service hours	53,230	8,904	7,287	<b>69,421</b>
In-service speed (miles per hour)	10.9	11.6	12.0	<b>11.1</b>
Operating cost	\$7,438,820	\$1,228,874	\$1,016,242	<b>\$9,683,936</b>
Fare revenue	\$2,515,673	\$305,827	\$260,316	<b>\$3,081,816</b>
Passengers	2,743,532	412,966	324,260	<b>3,480,758</b>
Average daily passengers	10,759	7,942	5,896	--
Average fare per passenger	\$0.92	\$0.74	\$0.80	<b>\$0.82</b>
Total subsidy	\$4,923,147	\$923,047	\$755,927	<b>\$6,602,120</b>
Subsidy per passenger	\$1.79	\$2.24	\$2.33	<b>\$2.12</b>
Passengers per in-service hour	51.54	46.38	44.50	<b>47.47</b>
Passengers per in-service mile	4.71	4.01	3.71	<b>4.51</b>
Farebox recovery ratio	33.8%	24.9%	25.6%	<b>31.8%</b>



### On-Time Performance

Metro Transit defines “on-time” as departing between one minute early and five minutes late. The systemwide on-time performance goal was 88 percent in October 2010. Table 36 depicts Route 18 weekday on-time performance compared to the systemwide average.

**Table 36. Route 18 On-Time Performance, October 2010**

	On Time	Late	Early
<b>Route 18</b>	90.4	8.5	1.1
<i>Northbound</i>	92.7	6.6	0.7
<i>Southbound</i>	87.8	10.6	1.6
<b>Systemwide</b>	87.7	9.8	2.5

In October 2010, Route 18 was on-time 90.4 percent of the time on weekdays. 8.5 percent of all weekday departures were late while only 1.1 percent were recorded as early. Thus, Route 18’s on-time performance was 2.7 percentage points better than the systemwide average. The northbound direction performed better than the southbound direction).

Systemwide on-time performance on Saturdays fared slightly poorer than weekdays with 85.0 percent of all trips departing on time, 12.8 percent departing late and 2.2 percent departing early. On Saturdays, Route 18 performed slightly worse than weekdays with 88.2 percent of all trips departing on time (10.7 percent late, 1.0 percent early).

Systemwide on-time performance on Sundays was better than Saturdays and nearly identical to weekdays with 87.6 percent of all trips departing on time, 10.3 percent departing late and 2.0 percent departing early. On Sundays, Route 18 performed similar to weekdays and slightly better than Saturdays with 90.2 percent of all trips departing on time (9.4 percent late, 0.4 percent early).

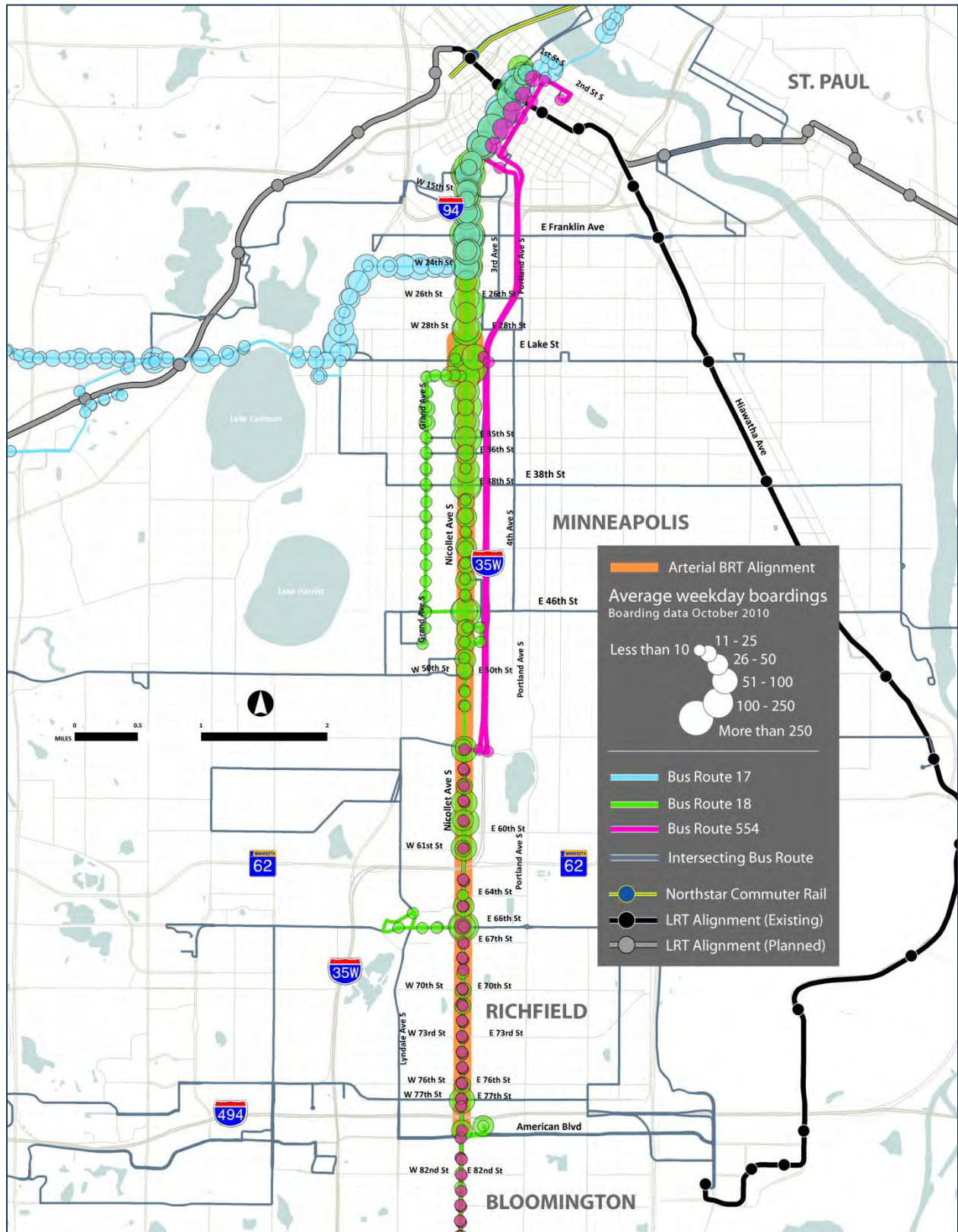
### Stop-Level Ridership

Current Route 18 average daily ridership (October 2010 APC data) is as follows:

- Weekdays: 10,949
- Saturdays: 7,948
- Sundays: 5,865

About 95 percent of Route 18’s daily ridership occurs north of American Boulevard. There were 4,582 boardings in the downtown segment, and 5,792 boardings between I-94 and American Boulevard. Route 554 operates on a portion of Nicollet Avenue (from American Boulevard to 50th Street). There were 116 boardings on this segment of Route 554. Route 17 also operates on a portion of Nicollet Avenue, from 24th Street into downtown. There were 3,110 boardings on this segment of Route 17. Cumulatively, these routes total to 13,600 boardings along the proposed corridor. Figure 34 illustrates weekday boardings by stop for routes operating in the Nicollet Avenue corridor.

Figure 34. Nicollet Avenue Corridor Weekday Ridership by Stop, October 2010



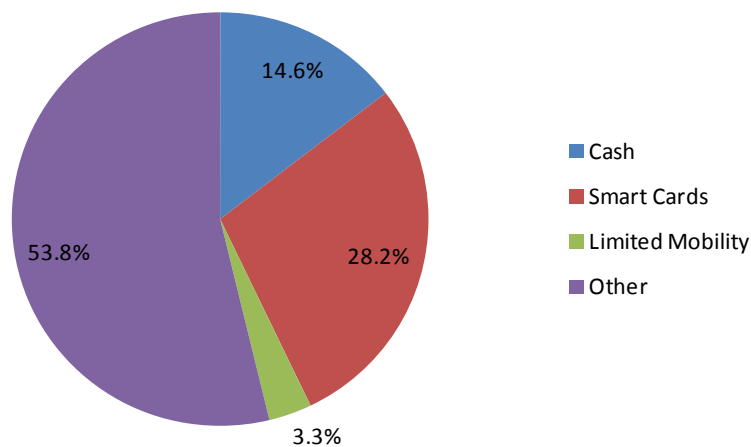
### Ridership by Fare Type/Media

For purposes of isolating fare categories with similar delay characteristics, fare payment methods are aggregated into the following categories:

- Cash
- Limited Mobility (both Farebox and Smartcard)
- Smartcard (not including Limited Mobility)
- Other (includes transfers and other pass payments through the farebox, tokens, and passengers who do not pay)

Figure 35 shows distribution of fare payment for Route 18.

**Figure 35. Route 18 Ridership by Fare Category, October 2010**



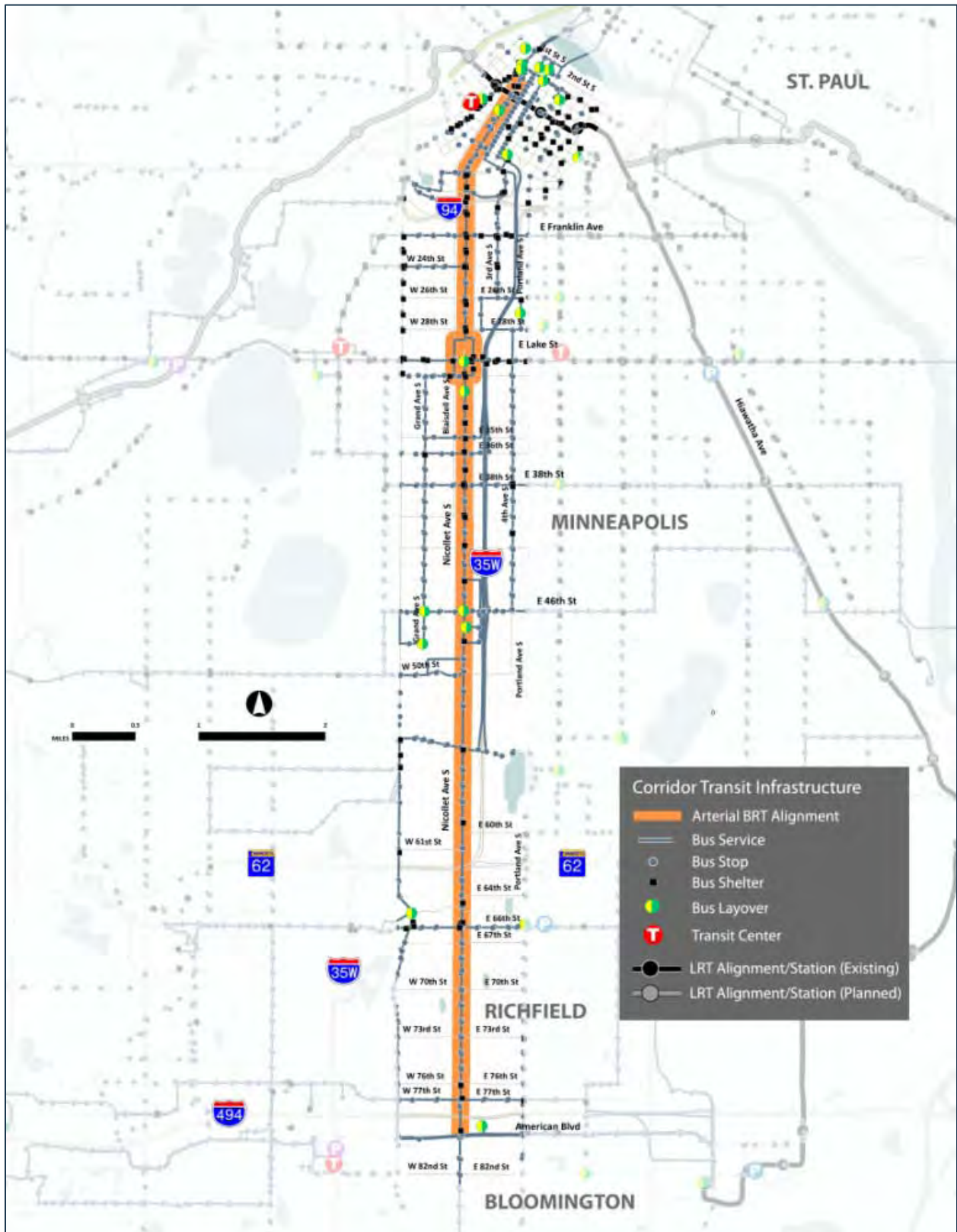
Smartcard usage is about 28 percent of total boardings. Limited mobility boardings (both farebox and Smartcard) are 3.3 percent of total boardings. Cash boardings are 14.6 percent. These percentages are fairly typical for urban local routes.

### Transit Infrastructure

Existing transit infrastructure in the Nicollet Avenue corridor is shown in Figure 36.

- Bus stops are spaced at approximately 8 per mile throughout the corridor.
- Passenger waiting shelters are located at nearly every cross street north of 46th Street; south of 46th, shelters are located generally at transfer points only.
- Existing Route 18 layovers are located at both corridor termini; in downtown Minneapolis, Route 18 lays over at the North Terminal (Nicollet Hotel block), and on the south end, the layover is located in the Super 8 driveway at American Boulevard/2nd Avenue.
- There are no existing or planned park-and-rides in the immediate vicinity of the corridor.

Figure 36. Nicollet Avenue Corridor Existing Transit Infrastructure



## Planned Land Use Changes

### City of Minneapolis (Sector Planner Paul Mogush)

General Growth Patterns would occur around the following comprehensive plan land use features:

- Growth Center and Major Retail Center and Transit Station Area: Downtown
- Major Retail Center and Activity Center: Nicollet & Lake
- Activity Center: Eat Street (26th St & Nicollet Ave)
- Commercial Corridor: Nicollet Avenue, from I-94 to 32nd St W
- Commercial Corridor: Nicollet Avenue, from 58th St to city boundary
- Neighborhood Commercial Node: 38th St & Nicollet Ave
- Neighborhood Commercial Node: 43rd St & Nicollet Ave
- Neighborhood Commercial Node: 46th St & Nicollet Ave
- Neighborhood Commercial Node: 48th St & Nicollet Ave
- Neighborhood Commercial Node: Diamond Lake Rd & Nicollet Ave
- Neighborhood Commercial Node: 60th St & Nicollet Ave

The corridor is a “Community Corridor,” meaning that the preferred and planned mix of land uses is small scale commercial and residential. The corridor is not likely to change much in terms of land use or density and intensity of land uses. The Neighborhood Commercial Nodes exist today, and although the nodes vary in terms of how successful or vibrant they are. Small parcel size and fragmented ownership limit the possibility of large scale changes that would not be captured in job and housing forecasts.

The one exception would be the commercial area at the southern end of the Minneapolis corridor (60th to 62nd). This commercial node is underutilized and has larger parcel sizes, in addition to immediate proximity to Hwy 62 and I-35W. This site could see significant housing or job growth in the future, but the market for significant development activity in this area is very slow now, and shows little signs of picking up in the near future.

The Activity Center at Nicollet and Lake could also change significantly in the future if the K-Mart site is redeveloped and Nicollet reconnected. Market conditions in the near future are not conducive to large scale investments here.

## Chicago Avenue

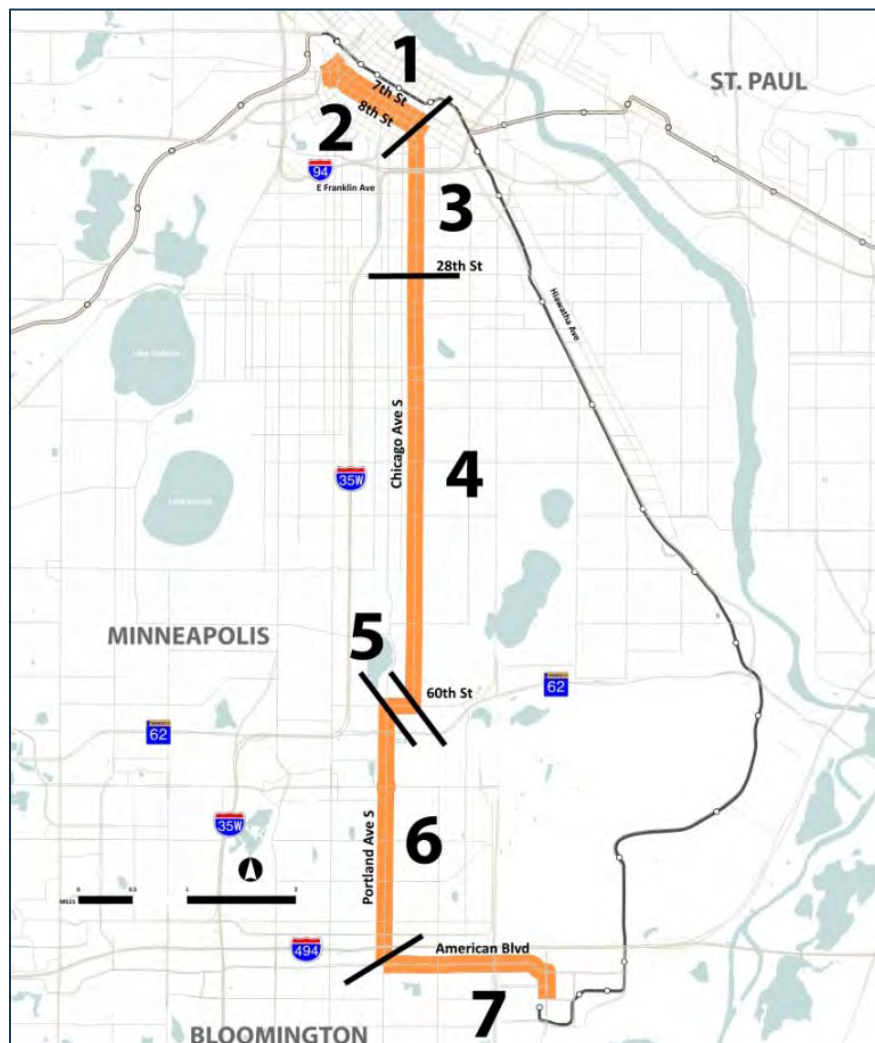
### Roadway Conditions

Information was requested from the cities of Minneapolis and Richfield for the Chicago Avenue corridor. Existing conditions information is summarized by the following segments in Table 37.

- Segment 1: 7th Street (Chicago Avenue to 1st Avenue)
- Segment 2: 8th Street (Chicago Avenue to 1st Avenue)
- Segment 3: Chicago (7th Street to 28th Street)
- Segment 4: Chicago (28th Street to 60th Street)
- Segment 5: 60th Street (Chicago Avenue to Portland Avenue)
- Segment 6: Portland Avenue (60th Street to American Boulevard)
- Segment 7: American Boulevard (Portland Avenue to 24th Avenue)

Figure 37 is a map of the Chicago Avenue corridor.

**Figure 37. Chicago Avenue Corridor**



**Table 37. Chicago Avenue Roadway Characteristics**

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
1	12,831-17,101		Signalized intersections at every block	80	3 lanes/ direction	10	No	Yes- parking lane is peak-hour travel lane	No	Yes	None identified.
2	4,852-6,915		Signalized intersections at every block	60' between 1st and Hennepin; 70' between Hennepin and Nicollet Mall; roadway narrows to 33' at 1st Ave	3 lanes/ direction	10-11	No	Yes- parking lane is peak-hour travel lane	No	Yes	None identified.
3	5,433-7,607	9,700	Signalized intersections every 2-3 blocks	80	1 lane/ direction	18	No	Yes		Yes	None identified.
4	5,289-7,807	5,500-9,300	Signalized intersections every 2-4 blocks	80	1 lane/ direction	11' between 28th and Lake; 16' between Lake and 60th St.	Yes- between 28th and Lake streets	Yes	No	Yes	None identified.
5	6,441	7,000	No signals, some stop signs	80	1 lane/ direction	11	No	Yes	No	Yes	None identified.
6	8,900-18,500	15,000-19,700	No signals in Minneapolis, some stop signs	90	1 lane/ direction; 2 lanes/ direction south of 61st St.	11-13	Yes- shared turn lanes	Yes- some parking in Minneapolis	No	Yes	None identified.

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
7	10,200-26,300	21,000	Signalized intersections		3 lanes/direction east of TH 77; 2 lanes/ direction west of TH 77; divided roadway		Yes	No	No	Yes	None identified.



Signalized intersections in the corridor are located at the following locations (listed from north to south):

- |             |                                   |  |                              |                                   |
|-------------|-----------------------------------|--|------------------------------|-----------------------------------|
| Minneapolis | • 10th at 3rd Av N (EB)           |  | • Chicago at 31st St         |                                   |
|             | • 7th at 3rd Av N (WB)            |  | • Chicago at 33rd St         |                                   |
|             | • 10th at Glenwood (EB)           |  | • Chicago at 34th St         |                                   |
|             | • 10th at Currie (EB)             |  | • Chicago at 35th St         |                                   |
|             | • 7th at 2nd Av N (WB)            |  | • Chicago at 36th St         |                                   |
|             | • 7th/8th at 1st Av N             |  | • Chicago at 38th St         |                                   |
|             | • 7th/8th at Hennepin             |  | • Chicago at 39th St         |                                   |
|             | • 7th at mid-block (LaSalle) (WB) |  | • Chicago at 42nd St         |                                   |
|             | • 8th at LaSalle (EB)             |  | • Chicago at 46th St         |                                   |
|             | • 7th/8th at Nicollet Mall        |  | • Chicago at 48th St         |                                   |
|             | • 7th/8th at Marquette Av S       |  | • Chicago at Minnehaha Pkwy  |                                   |
|             | • 7th/8th at 2nd Av S             |  | • Chicago at 54th St         |                                   |
|             | • 7th/8th at 3rd Av S             |  | • Portland at 60th St        |                                   |
|             | • 7th/8th at 4th Av S             |  | • Portland at Hwy 62 WB Ramp |                                   |
|             | • 7th/8th at 5th Av S             |  | • Portland at Hwy 62 EB Ramp |                                   |
|             | • 7th/8th at Portland             |  |                              |                                   |
|             | • 7th/8th at Park                 |  | Richfield                    | • Portland at 64th St             |
|             | • 7th/8th at Chicago              |  |                              | • Portland at 70th St             |
|             | • Chicago at 9th St               |  |                              | • Portland at 76th St             |
|             | • Chicago at 14th St              |  |                              | • Portland at 77th St             |
|             | • Chicago at 15th St              |  |                              | • Portland at 78th St WB          |
|             | • Chicago at 17th St              |  |                              |                                   |
|             | • Chicago at Franklin             |  | Bloomington                  | • Portland at 78th St EB          |
|             | • Chicago at 24th St              |  |                              | • Portland at American Blvd       |
|             | • Chicago at 25th St              |  |                              | • American Blvd at Chicago        |
|             | • Chicago at 26th St              |  |                              | • American Blvd at 12th Ave S     |
|             | • Chicago at 27th St              |  |                              | • American Blvd at Thunderbird Rd |
|             | • Chicago at 28th St              |  |                              | • American Blvd at 24th Av S      |
|             | • Chicago at 29th St              |  |                              | • 24th Av S at Lindau Ln          |
|             | (Chicago-Lake Transit Center)     |  |                              | • 24th Av S at 82nd St            |
|             | • Chicago at Lake                 |  |                              |                                   |

## Existing Transit Conditions – Route 5

The proposed Chicago Avenue corridor follows Chicago Avenue and Portland Avenue to American Boulevard. The corridor alignment then continues east on American Boulevard to the MOA. Route 5 is the primary Metro Transit route that serves this corridor. The corridor alignment and existing transit services are shown in Figure 38.

Route 5 begins northwest of downtown Minneapolis at the Brooklyn Center Transit Center. It travels through downtown Minneapolis on the 7th/8th Street one-way pair, and then follows Chicago Avenue, 60th Street, Portland Avenue and American Boulevard to the MOA. There are two primary weekday route patterns:

- 5A (SB)/5M (NB) – turns back/starts at Chicago and 38th Street
- 5E (SB)/5L (NB) – runs to the end of line at Mall of America

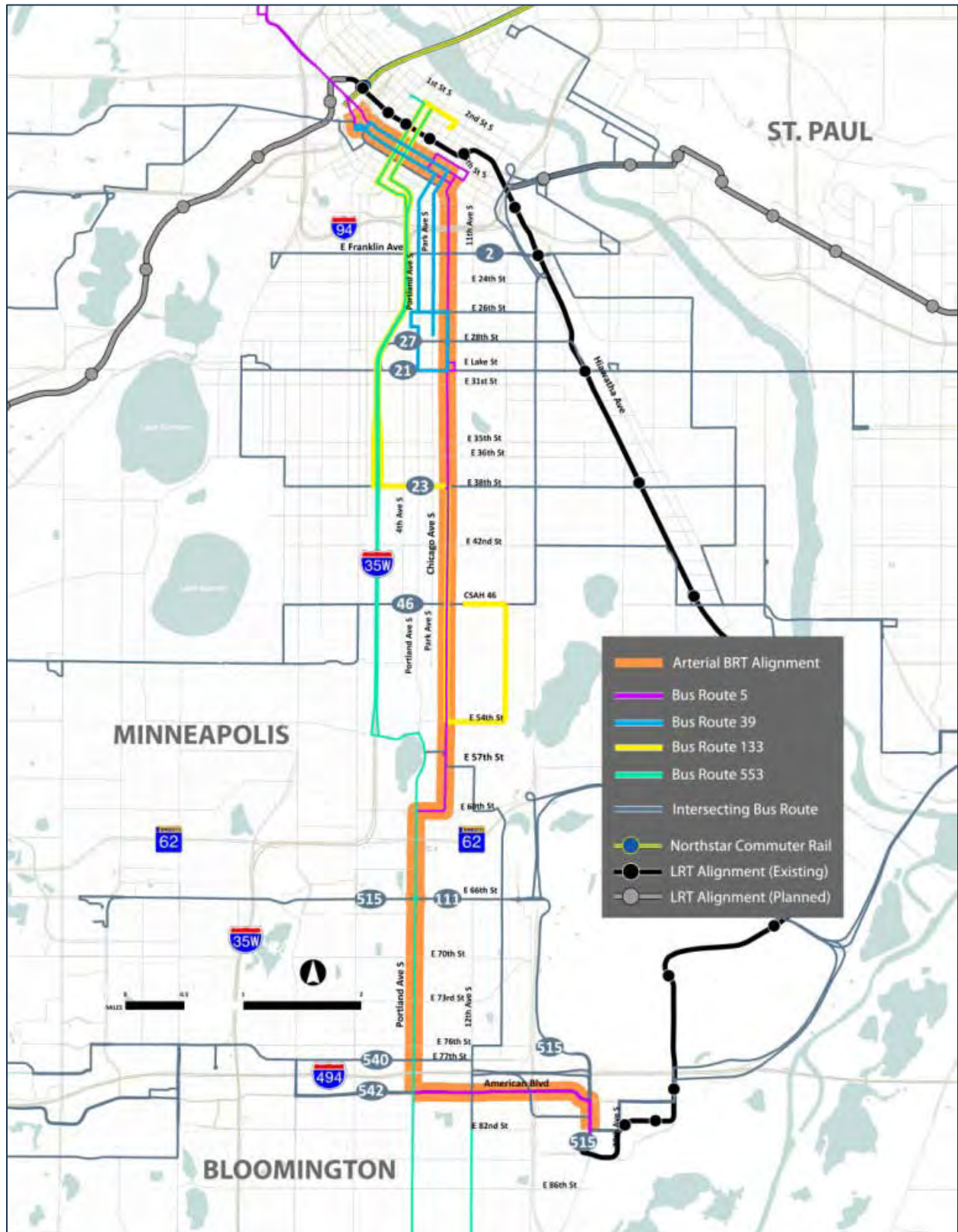
Each route pattern operates at about 15-minute frequencies on weekdays, resulting in a combined frequency of 7 to 8 minutes. North of 56th Street, Route 5 is part of Metro Transit's Hi-Frequency Network. On Saturdays, each route pattern operates at 20-minute frequencies for a combined 10-minute service frequency. On Sundays, frequencies on each route pattern are typically 30 minutes, but with all trips going to/from the Mall of America in the early afternoon. Route 5 operates 24 hours a day.

Within the proposed corridor, Route 5's alignment serves downtown Minneapolis, Hope Academy, Children's Medical Center, Abbott Northwestern Hospital and associated medical facilities south of Lake Street. Route 5 also serves the Chicago Lake Transit Center located just north of Lake Street. South of Lake Street, the corridor's land use characteristics are generally older single-family residential, with some commercial nodes at major cross streets. The alignment crosses into Richfield south of Highway 62. The alignment then turns east on American Boulevard, where it serves several commercial uses including a Walmart Supercenter, and ends at the Mall of America Transit Center.

Route transfer opportunities to and from Route 5 within the defined corridor (outside of downtown Minneapolis) are as follows:

- Chicago Avenue/Franklin Avenue – Routes 2, 9
- Chicago Avenue/26th Avenue – Routes 27, 39
- Chicago Lake Transit Center – Routes 21, 39, 53
- Chicago Avenue/38th Street – Routes 23, 133
- Chicago Avenue/46th Street – Routes 46, 111
- Chicago Avenue/54th Street – Routes 14, 133
- Chicago Avenue/56th Street – Route 552
- Portland Avenue/66th Street – Routes 111, 515
- Portland Avenue/77th Street – Route 540
- Portland Avenue/American Boulevard – Routes 542, 553
- American Boulevard/12th Avenue – Route 552
- Mall of America – Multiple routes including Hiawatha LRT

Figure 38. Chicago Avenue Corridor Routes and Connecting Services



Four other routes operate on portions of the proposed Chicago Avenue corridor:

- Route 39 operates on a small portion of Chicago Avenue, from 26th Street to Lake Street
- Route 111 is a limited stop U of M route that operates along Portland and Chicago Avenues, from American Boulevard to 46th Street
- Route 133 operates on a portion of Chicago Avenue, from 54th to 38th Street, then runs express to downtown Minneapolis via I-35W
- Route 553 operates on a portion of Portland Avenue, from American Boulevard to 60th Street, and then runs express to downtown Minneapolis via I-35W

### Service Characteristics and Route Performance

Pertinent Route 5 characteristics, resources, and statistics are noted in Table 39. Daily service statistics are from Metro Transit's September 2010 System Statistics.

**Table 38. Route 5 Service Characteristics, September 2010**

Route 5	Weekday	Saturday	Sunday
<b>Route Characteristics</b>			
Hours of Operation	Continuous	Continuous	Continuous
Frequency (Pk-Mid-Eve)	10-8-20	15-10-15	AM 30/PM 12-15-30
Trips (one-way)	252	198	144
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	283.6	221.4	159.8
Recovery	57.7	43.2	32.3
Deadhead	<u>23.7</u>	<u>18.6</u>	<u>14.8</u>
Total (Platform)	365.0	283.3	206.8
<b>Daily Miles</b>			
In Service	3460.0	2950.4	2186.9
Deadhead	<u>451.9</u>	<u>344.5</u>	<u>281.1</u>
Total	3911.8	3294.9	2468.0
<b>Bus Requirements</b>			
AM	19	14	12
Midday	22	17	11
PM	22	17	16
Night	11	11	9

Key Route 5 performance indicators for 2009 are shown in Table 39. Figures are from Metro Transit's 2009 Regional Performance Report.

**Table 39. Route 5 Performance, 2009 Annual Totals**

	Weekday	Saturday	Sunday	Total
In-service miles	901,404	151,668	128,331	<b>1,181,404</b>
In-service hours	76,138	11,745	9,665	<b>97,548</b>
In-service speed (miles per hour)	11.8	12.9	13.3	<b>12.1</b>
Operating cost	\$10,542,837	\$1,603,758	\$1,343,736	<b>\$13,490,331</b>
Fare revenue	\$3,369,375	\$422,924	\$346,780	<b>\$4,139,079</b>
Passengers	4,162,897	550,299	428,168	<b>5,141,364</b>
Average daily passengers	16,325	10,583	7,785	--
Average fare per passenger	\$0.81	\$0.77	\$0.81	<b>\$0.80</b>
Total subsidy	\$7,173,462	\$1,180,834	\$996,956	<b>\$9,351,252</b>
Subsidy per passenger	\$1.72	\$2.15	\$2.33	<b>\$2.07</b>
Passengers per in-service hour	54.68	46.85	44.30	<b>48.61</b>
Passengers per in-service mile	4.62	3.63	3.34	<b>4.35</b>
Farebox recovery ratio	32.0%	26.4%	25.8%	<b>30.7%</b>

### On-Time Performance

Metro Transit defines “on-time” as departing between one minute early and five minutes late. The systemwide on-time performance goal was 88 percent in October 2010. Table 40 depicts Route 5 weekday on-time performance compared to the systemwide average.

**Table 40. Route 5 On-Time Performance, October 2010**

	On Time	Late	Early
<b>Route 5</b>	85.2	9.8	5.0
Northbound	86.0	9.2	4.8
Southbound	84.4	10.4	5.3
<b>Systemwide</b>	87.7	9.8	2.5

In October 2010, Route 5 was on-time 85.2 percent of the time on weekdays. 9.8 percent of all weekday departures were late while 5.0 percent were recorded as early. Thus, Route 5’s on-time performance was 2.5 percentage points worse than the systemwide average. The northbound direction performed slightly better than the southbound direction.

Systemwide on-time performance on Saturdays fared slightly poorer than weekdays with 85.0 percent of all trips departing on time, 12.8 percent departing late and 2.2 percent departing early. Route 5 also performed slightly worse on Saturdays with 83.8 percent of all trips departing on time (11.5 percent late, 4.7 percent early).

Systemwide on-time performance on Sundays was better than Saturdays and nearly identical to weekdays with 87.6 percent of all trips departing on time, 10.3 percent departing late and 2.0 percent departing early. On Sundays, Route 5 performed slightly worse than weekdays and Saturdays with 82.9 percent of all trips departing on time (11.7 percent late, 5.4 percent early).

## Stop-Level Ridership

Current Route 5 average daily ridership (October 2010 APC data) is as follows:

- Weekdays: 16,398
- Saturdays: 11,230
- Sundays: 7,439

About 7,867 of the 16,398 weekday boardings on Route 5 are occurring within the defined Chicago Avenue corridor (48 percent of total route ridership). The downtown segment of the corridor had 1,680 boardings and the segment from I-94 south to the MOA had 6,187 boardings. Route 553 also operates on a small segment of Portland Avenue from American Boulevard to 60th Street. This segment had 57 daily boardings. Route 133 also operates on Chicago Avenue from 54th Street to 38th Street. This segment had 98 daily boardings. There are about 8,000 total boardings along the proposed Chicago Avenue corridor between these three routes, with ridership much higher north of 38th Street. Figure 40 illustrates weekday boardings by stop for routes operating in the Chicago Avenue corridor. Note that the October 2010 data shown partially reflects a construction detour between Franklin Avenue and 8th/7th Streets that was effective May–October 2010.

## Ridership by Fare Type/Media

For purposes of isolating fare categories with similar delay characteristics, fare payment methods are aggregated into the following categories:

- Cash
- Limited Mobility (both Farebox and Smartcard)
- Smartcard (not including Limited Mobility)
- Other (includes transfers and other pass payments through the farebox, tokens, and passengers who do not pay)

Figure 39 shows distribution of fare payment for Route 5. Smartcard usage is about 24 percent of total boardings. Limited mobility boardings (both farebox and Smartcard) are 3.2 percent of total boardings. Cash boardings are 15.4 percent. These percentages are fairly typical for urban local routes.

**Figure 39. Route 5 Ridership by Fare Category, October 2010**

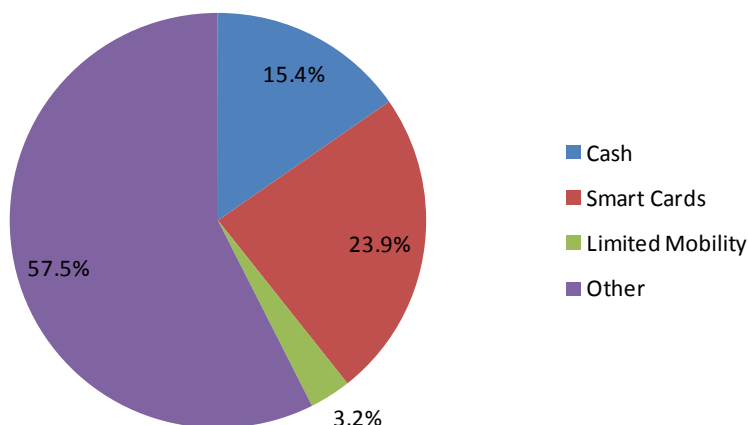
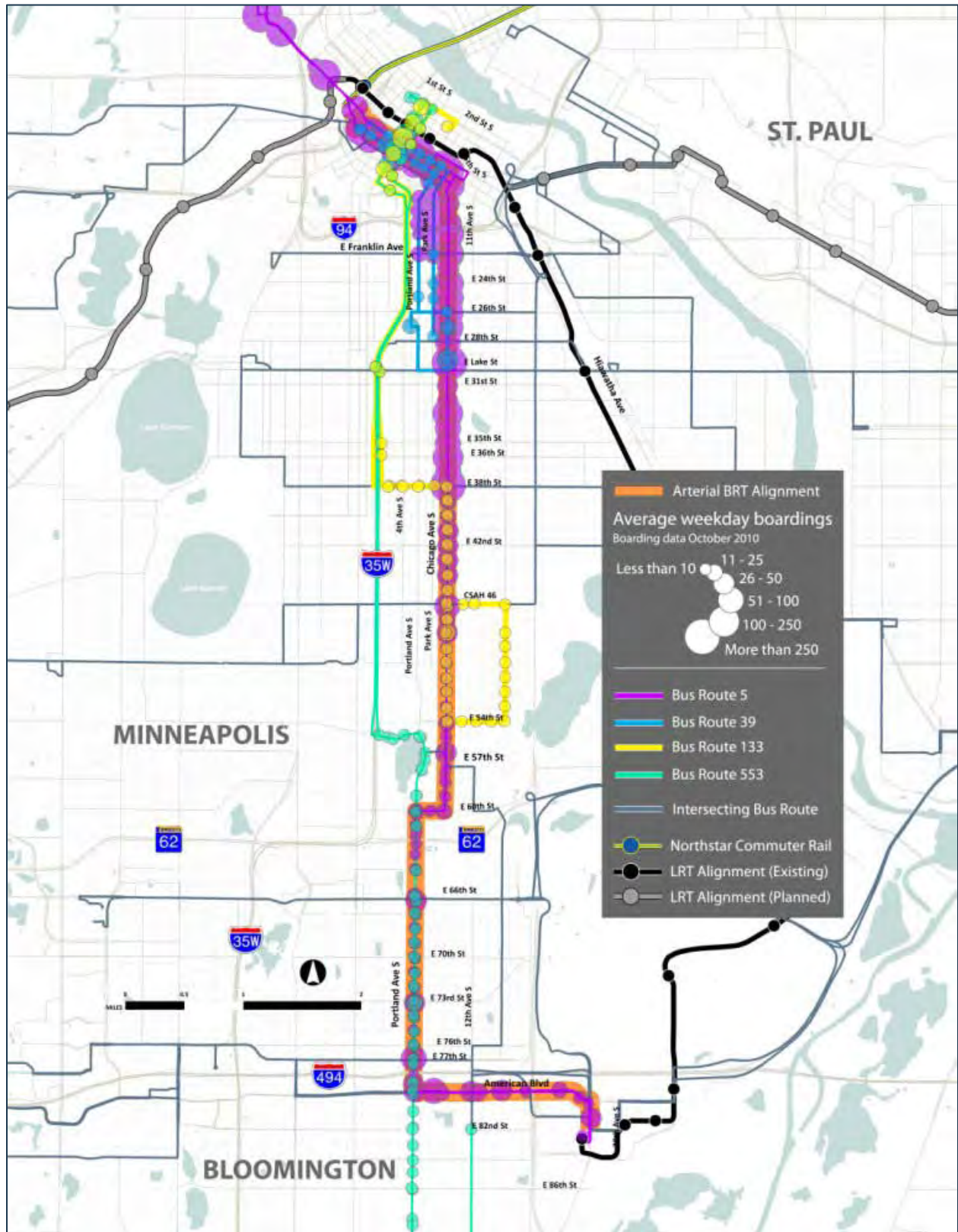


Figure 40. Chicago Avenue Corridor Weekday Ridership by Stop, October 2010



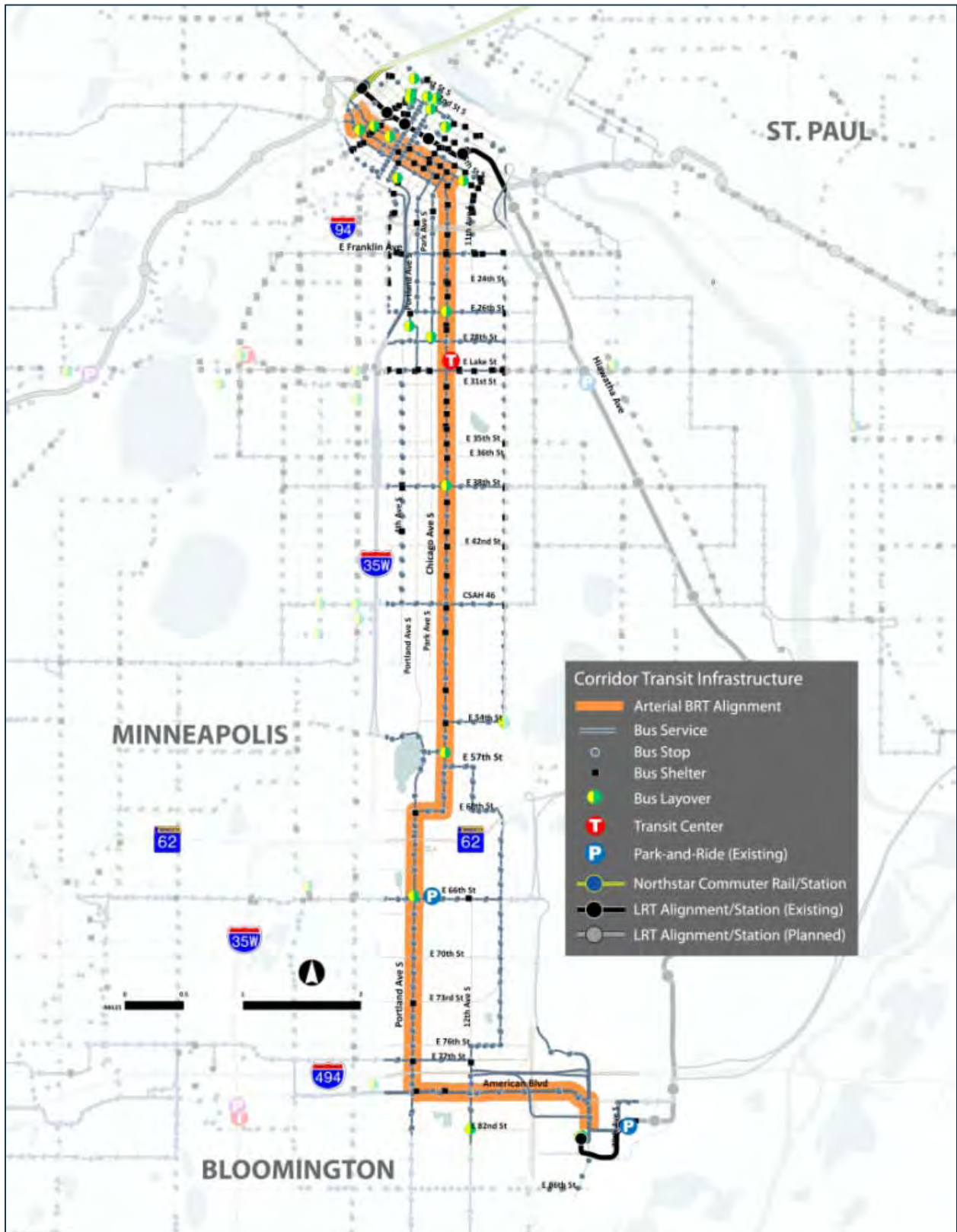
### **Transit Infrastructure**

Existing transit infrastructure in the Chicago Avenue corridor is shown in Figure 41.

- Bus stops are spaced at frequencies of approximately 8-10 per mile throughout the corridor; stop spacing is relatively uniform north of American Boulevard.
- Passenger waiting shelters are located at nearly every stop north of 46th Street, with only eight shelters on the portion of the corridor between 46th and MOA.
- Existing layover facilities are located at both corridor termini; in downtown Minneapolis, corridor ABRT vehicles would layover at the 7th Street Garage, and on the south end, ABRT would use the existing Route 5 layover at MOA.
- A very small park-and-ride is located at 66th and Portland (Richfield Municipal Pool); there are no other existing or planned park-and-rides in the immediate corridor vicinity.



Figure 41. Chicago Avenue Corridor Existing Transit Infrastructure



## Planned Land Use Changes

### City of Minneapolis (Sector Planner Paul Mogush)

General Growth Patterns would occur around the following comprehensive plan land use features:

- Growth Center and Major Retail Center and Transit Station Area: Downtown
- Growth Center: Wells Fargo/Hospitals
- Activity Center: Chicago & Lake
- Neighborhood Commercial Node: 38th St E & Chicago Ave S
- Neighborhood Commercial Node: 48th St E & Chicago Ave S
- Neighborhood Commercial Node: 54th St E & Chicago Ave S
- Neighborhood Commercial Node: 56th St E & Chicago Ave S

The corridor is a “Community Corridor,” meaning that the preferred and planned mix of land uses is small scale commercial and residential. The corridor is not likely to change much in terms of land use or density and intensity of land uses. The Neighborhood Commercial Nodes exist today, and although the nodes vary in terms of how successful or vibrant they are (48th and Chicago is very successful, 38th and Chicago continues to struggle) future changes are not expected to create significant changes in regard to the number of housing units or jobs. Most of the neighborhood commercial areas are fairly fragmented in parcel ownership and parcel size, making large scale changes difficult and expensive.

The Activity Center (Chicago and Lake, the Sears/Midtown Market redevelopment) has already intensified and is not expected to see substantial additions of housing units or employment.

The City is in the process of completing a new small area plan for the Growth Center area north of Lake Street that included the hospitals. However, the underutilized space in this area will be filled by hospital consolidation of services and will result in only modest job growth from the existing level of employment in this area.

The corridor has complete sidewalks on both sides of all streets except for a gap on the east side of Chicago Avenue between 45th and 46th Streets adjacent to the cemetery. There are pedestrian ramps and bus stop pads at bus stops in this segment of sidewalk gap.

## West 7th Street

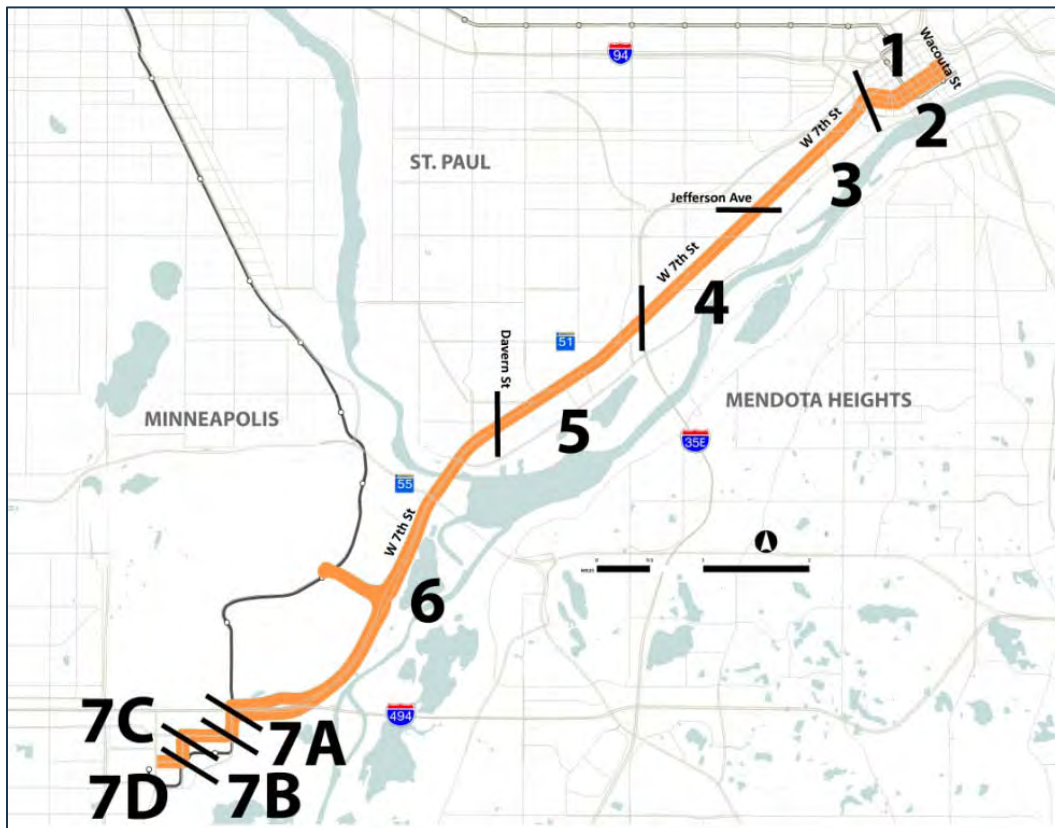
### Roadway Conditions

Roadway information was requested from the cities of St. Paul and Bloomington and MnDOT for the West 7th Street corridor. Existing conditions information is summarized by the following segments in Table 41.

- Segment 1: 6th Street (Wacouta Street to 7th Street West)
- Segment 2: 5th Street (Wacouta Street to 7th Street West)
- Segment 3: West 7th Street (6th Street to Jefferson Avenue)
- Segment 4: West 7th Street (Jefferson Avenue to I-35E)
- Segment 5: West 7th Street (I-35E to Davern Street)
- Segment 6: West 7th/Highway 5 (Davern Street to I-494)
- Segment 7: MOA Area (34th Avenue to American Boulevard to 28th Avenue to 82nd Street)
  - Segment 7A: 34th Avenue (I-494 to American Boulevard)
  - Segment 7B: American Boulevard (34th Avenue to 28th Avenue)
  - Segment 7C: 28th Avenue (American Boulevard to 82nd Street)
  - Segment 7D: 82nd Street (28th Avenue to 24th Avenue)

Figure 42 is a map of the West 7th Street corridor.

**Figure 42. West 7th Street Corridor**



**Table 41. West 7th Street Roadway Characteristics**

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
1	5,500-7,450	6,675-9,650	Signalized intersections	60	One way street with 2-3 through lanes as well as a diamond lane	11	Yes	Yes	No	Yes	Streetscape improvements, may include bike lanes or contraflow bike lanes
2	4,875-6,800	5,925-8,275	Signalized intersections	60	One way street with 2-3 through lanes as well as a diamond lane	11	Yes	Yes	No	Yes	Streetscape improvements, may include bike lanes or contraflow bike lanes
3	10,300-17,800	12,500-21,625	Signalized intersections	85 typical; varies closer to Jefferson Ave.	2 lanes/ direction	12-13	Yes	Yes	No	Yes	None identified
4	10,600-12,200		Signalized intersections	80	1 lane/ direction	10	Yes, center dual turn lane	Yes	No	Yes	None identified
5	26,000-28,000	32,225-33,925	Signalized intersections	80	2 lanes/ direction	10	Yes, center dual turn lane	No	No	Yes	None identified
6	28,500-73,000		Divided controlled access	Variable	2 lanes/ direction		No	No	No	No	Study in conjunction with MAC looking at the layout of the roads along the SE portion of airport
7A	14,700	51,000						No	No		Reconstruction of 34th Ave/I-494 intersection- divergent diamond.
7B	7,900	24,000	Signalized intersections		2 lanes/ direction		Yes	No	No	Yes	Potential reconstruction of 30th Ave from American Blvd to E Old Shakopee Rd in 2013.

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes feet	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
7C	2,250	36,000	Signalized intersections		2 lanes/ direction		Yes	No	No	Yes	Construction of Lindau Lane from 24th Ave to 30th Ave in 2013.
7D	1,150		Signalized intersections		2 lanes/ direction		Yes	No	No	Yes	None identified

Traffic signals in the corridor are located at the following locations (listed from west to east):

- |             |   |          |  |
|-------------|---|----------|--|
| Bloomington | <ul style="list-style-type: none"><li>• 24th Ave at 82nd St</li><li>• 82nd St at 28th Ave</li><li>• 28th Ave at American Blvd</li><li>• American Blvd at 34th Ave</li><li>• 34th Ave at I-494/TH 5 EB ramp</li><li>• 34th Ave at I-494/TH 5 WB ramp (WB only)</li></ul>   | St. Paul | <ul style="list-style-type: none"><li>• W 7th at Saint Clair</li><li>• W 7th at Smith</li><li>• W 7th at Grand</li><li>• W 7th at Walnut</li><li>• W 7th at Chestnut</li><li>• W 7th at Kellogg</li><li>• 7th St at 5th St (EB only)</li><li>• 7th St at 6th St (WB only)</li><li>• 5th St at Market (EB only)</li><li>• 5th/6th at St. Peter</li><li>• 5th/6th at Wabasha</li><li>• 5th/6th at Cedar</li><li>• 5th/6th at Minnesota</li><li>• 5th/6th at Robert</li><li>• 5th/6th at Jackson</li><li>• 5th/6th at Sibley</li><li>• 5th/6th at Wacouta</li></ul> |
| St. Paul    | <ul style="list-style-type: none"><li>• W 7th at Davern</li><li>• W 7th at Maynard</li><li>• W 7th at St. Paul Ave</li><li>• W 7th at Montreal/Lexington</li><li>• W 7th at Albion</li><li>• W 7th at I-35E SB ramps</li><li>• W 7th at I-35E NB ramps</li><li>• W 7th at Otto</li><li>• W 7th at Randolph</li><li>• W 7th at Jefferson</li></ul> |          |  |

## Existing Transit Conditions – Route 54

The proposed West 7th Street corridor follows West 7th Street/TH 5 and I-494 between downtown St. Paul and the MOA. In addition to connecting to the Hiawatha LRT Line, this corridor will also connect to the Central Corridor LRT line in downtown St. Paul. Route 54 is the primary Metro Transit route that serves this corridor. The corridor alignment and existing transit services are shown in Figure 43.

Route 54 begins in downtown St. Paul and travels along West 7th Street. After crossing the Mississippi River, the route deviates to the Lindbergh Terminal Station at the Minneapolis/St. Paul International Airport. The route then continues along TH 5 and I-494 to 34th Avenue. The route stops at the 28th Avenue station, and then ends at the Mall of America Station. This route operates a consistent service pattern all day (i.e., there is only one route alignment). Weekday service frequencies are 15 minutes all day, including in the evenings. Saturday service frequencies begin at 30 minutes but transition to 15 minutes by mid-morning. Sunday service frequencies are 30 minutes all day. All of Route 54 is included in Metro Transit's Hi-Frequency Network.

Outside of downtown St. Paul, Route 54's alignment serves a mix of medium to high density residential and commercial land uses to Montreal Avenue. Beginning at this point, all development is on the east side of the road until St. Paul Avenue. Sibley Plaza and SuperValu is located south of St. Paul Avenue. TH 5 becomes a limited access facility south of the Mississippi River. The route deviates to Lindbergh Terminal at the airport, and then continues south along TH 5 and I-494 to 34th Avenue. There are several office complexes along this portion of the alignment, such as Appletree Square. Route 54 includes a stop at the 28th Avenue Station, and then continues to the Mall of America Station.

Route transfer opportunities to and from Route 54 within the defined West 7th Street corridor are as follows:

- West 7th/St. Clair Avenue – Route 70
- West 7th/Randolph Avenue – Route 74
- West 7th/Madison – Routes 46, 84
- Lindbergh Terminal Station – Route 55 (Hiawatha LRT)
- 28th Avenue Station – Routes 55 (Hiawatha LRT), 538, 539, 440, 441, 442, 444, 445
- Mall of America Station – Multiple routes including 55 (Hiawatha LRT)

Figure 43. West 7th Street Corridor Routes and Connecting Services





### Service Characteristics and Route Performance

Pertinent Route 54 characteristics, resources, and statistics are noted in Table 42. Daily service statistics are from Metro Transit's September 2010 System Statistics.

**Table 42. Route 54 Service Characteristics, September 2010**

Route 54	Weekday	Saturday	Sunday
<b>Route Characteristics</b>			
Hours of Operation	4:05 a.m.-1:11 a.m.	4:07 a.m.-12:55 a.m.	4:07 a.m.-1:01 a.m.
Frequency (Pk-Mid-Eve)	15-15-15	AM 30/PM 15-15-15	30-30-30
Trips (one-way)	150	97	82
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	98.9	84.2	49.3
Recovery	26.8	29.2	10.5
Deadhead	<u>6.5</u>	<u>5.5</u>	<u>2.4</u>
Total (Platform)	132.2	118.9	62.2
<b>Daily Miles</b>			
In Service	1891.7	1628.7	989.2
Deadhead	<u>113.8</u>	<u>112.8</u>	<u>26.2</u>
Total	2005.4	1741.5	1015.3
<b>Bus Requirements</b>			
AM	7	5	3
Midday	7	7	3
PM	7	8	3
Night	7	7	3

Key Route 54 performance indicators for 2009 are shown in Table 43. Figures are from Metro Transit's 2009 Regional Performance Report.

**Table 43. Route 54 Performance, 2009 Annual Totals**

	Weekday	Saturday	Sunday	Total
<b>In-service miles</b>	483,830	83,126	57,414	<b>624,371</b>
<b>In-service hours</b>	25,282	4,295	2,859	<b>32,436</b>
<b>In-service speed (miles per hour)</b>	19.1	19.4	20.1	<b>19.2</b>
<b>Operating cost</b>	\$3,634,876	\$651,403	\$387,515	<b>\$4,673,793</b>
<b>Fare revenue</b>	\$1,037,023	\$145,071	\$119,996	<b>\$1,302,090</b>
<b>Passengers</b>	1,020,487	160,122	117,719	<b>1,298,328</b>
<b>Average daily passengers</b>	4,002	3,079	2,140	--
<b>Average fare per passenger</b>	\$1.02	\$0.91	\$1.02	<b>\$0.98</b>
<b>Total subsidy</b>	\$2,597,853	\$506,333	\$267,518	<b>\$3,371,704</b>
<b>Subsidy per passenger</b>	\$2.55	\$3.16	\$2.27	<b>\$2.66</b>
<b>Passengers per in-service hour</b>	40.36	37.28	41.18	<b>39.61</b>
<b>Passengers per in-service mile</b>	2.11	1.93	2.05	<b>2.08</b>
<b>Farebox recovery ratio</b>	28.5%	22.3%	31.0%	<b>27.9%</b>

### On-Time Performance

Metro Transit defines “on-time” as departing between one minute early and five minutes late. The systemwide on-time performance goal was 88 percent in October 2010. Table 44 depicts Route 54 weekday on-time performance compared to the systemwide average.

**Table 44. Route 54 On-Time Performance, October 2010**

	On Time	Late	Early
<b>Route 54</b>	91.7	7.6	0.8
<i>Eastbound</i>	92.6	6.6	0.8
<i>Westbound</i>	90.6	8.7	0.7
<b>Systemwide</b>	87.7	9.8	2.5

In October 2010, Route 54 was on-time 91.7 percent of the time on weekdays. 7.6 percent of all weekday departures were late while only 0.8 percent were recorded as early. Thus, Route 54’s on-time performance was 4.0 percentage points better than the systemwide average. The eastbound direction performed better than the westbound direction.

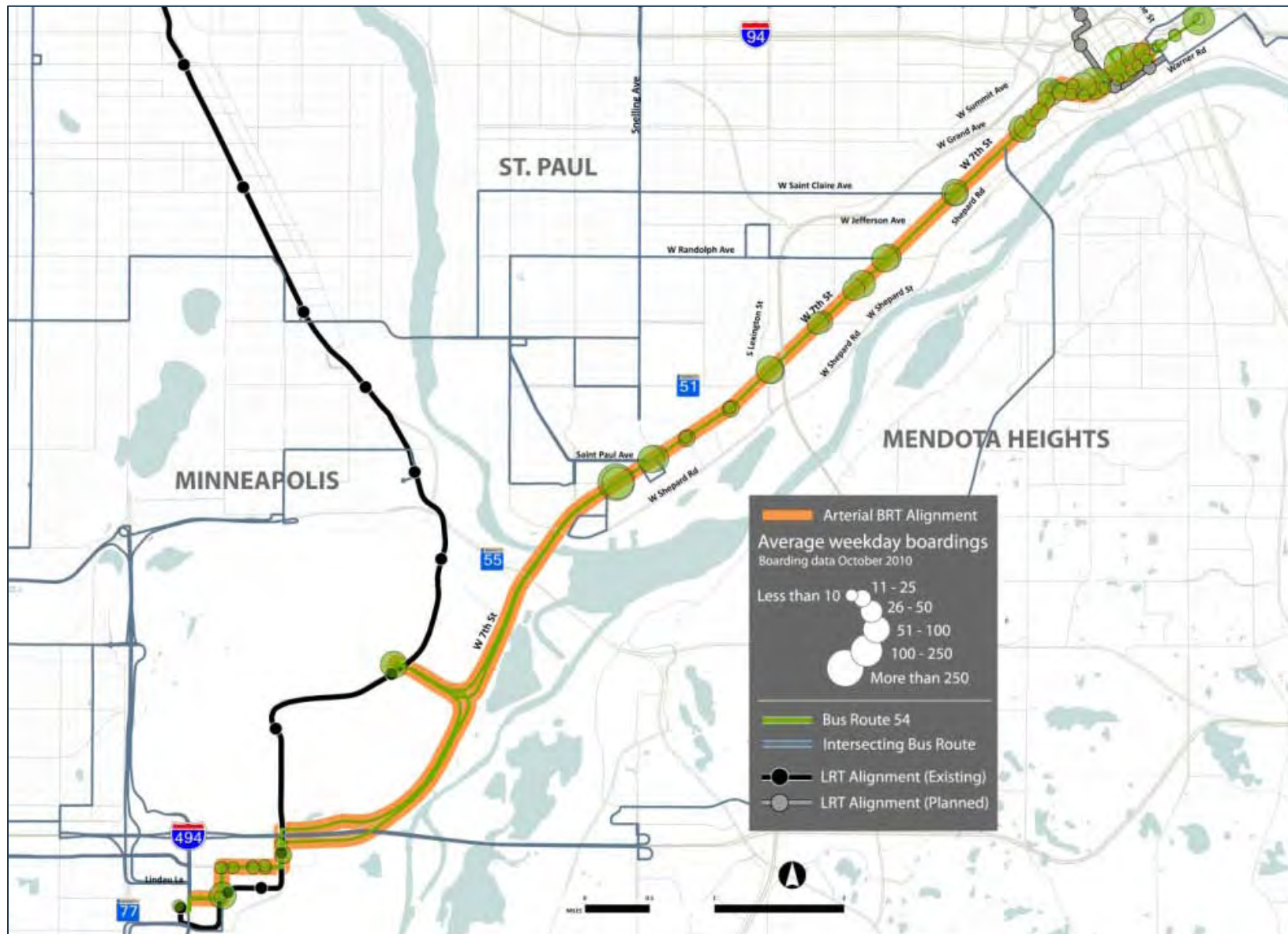
### Stop-Level Ridership

Current Route 54 average daily ridership (October 2010 APC data) is as follows:

- Weekdays: 4,171
- Saturdays: 3,290
- Sundays: 2,382

About 1,579 of the 4,171 weekday boardings on Route 54 are occurring within downtown St. Paul (40 percent of total route ridership). The remaining 2,592 boardings occur south of downtown (60 percent of total route ridership). Figure 44 illustrates weekday boardings by stop for routes operating in the West 7th Street corridor.

Figure 44. West 7th Street Corridor Weekday Ridership by Stop, October 2010



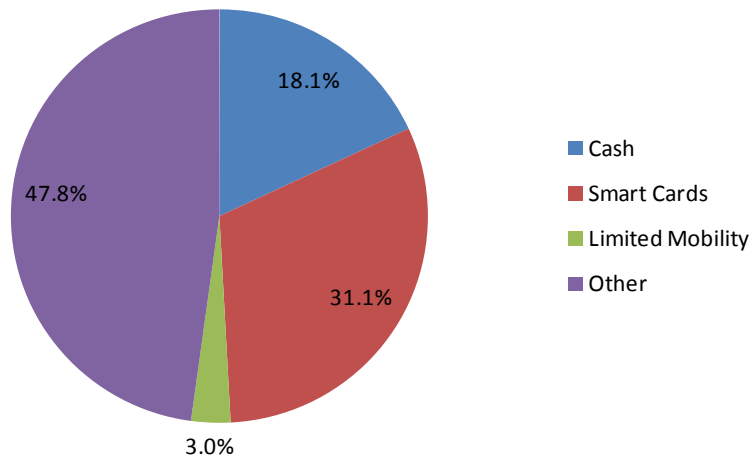
### Ridership by Fare Type/Media

For purposes of isolating fare categories with similar delay characteristics, fare payment methods are aggregated into the following categories:

- Cash
- Limited Mobility (both Farebox and Smartcard)
- Smartcard (not including Limited Mobility)
- Other (includes transfers and other pass payments through the farebox, tokens, and passengers who do not pay)

Figure 45 shows distribution of fare payment for Route 54. Smartcard usage is about 31 percent of total boardings, which is slightly higher than typical usage on urban local routes. Limited mobility boardings (both farebox and Smartcard) are 3.0 percent of total boardings. Cash boardings are 18.1 percent.

**Figure 45. Route 54 Ridership by Fare Category, October 2010**



### Transit Infrastructure

Existing transit infrastructure in the West 7th Street corridor is shown in Figure 46.

- Bus stops are spaced at approximately six per mile east of Randolph Avenue, three per mile between Randolph and Davern, and at eight stops per mile in Bloomington.
- Passenger waiting shelters are located at approximately half of the stops within St. Paul, and at 28th Avenue (eastbound) in Bloomington.
- Existing layovers are located at both corridor termini; on the west end, Route 54 currently lays over at the MOA, and in downtown St. Paul, Route 54 uses the 5th Street Layover on the east end of downtown. In the future, West 7th ABRT could also lay over at the Union Depot.
- Route 54 serves the existing park-and-ride at 28th Avenue Station on the Hiawatha LRT Line. No other park-and-rides are planned in the immediate corridor vicinity.

Figure 46. West 7th Street Corridor Existing Transit Infrastructure



## Planned Land Use Changes

### Metropolitan Airports Commission (Denny Probst)

The Metropolitan Airports Commission (MAC) updated its Comprehensive Plan a year ago. Mr. Probst reported that the airport has a fundamental interest in high-capacity, high-quality transit access. They are open to discussions with Metro Transit on ridership projections and the best means to accommodate increases in ridership. There are currently no plans to improve bicycle and pedestrian access to the airport terminals. MAC is currently conducting an environmental assessment regarding proposed improvements in airport infrastructure in the next 10-20 years. They forecast that by the year 2030 MSP will serve 56 million passengers per year. (This is contrast to the 32.5 million passengers served in 2010.) The projected improvements include 28 additional flight gates and a significant expansion of passenger related support services such as concessions, auto rental, etc. This will increase the level of employment at the facility, but it is unknown at this time to what extent.

### City of St. Paul (Planners Craig O'Brien, Merritt Clapp-Smith)

The Comprehensive Plan and zoning ordinance treat the West 7th Corridor is a heavily traveled corridor with dense residential and commercial development, designated as a mixed use corridor with some significant growth opportunities. The most prominent growth node on the corridor is the relatively recent Gateway housing development and the adjacent US Bank site. The undeveloped site, located at the Mississippi River bridge, is almost 40 acres and is likely to be a job center (not residential) but with continued increases in residential density around it. The market indicates that development at this location is likely to occur in the relative near future.

The south side of West 7th, traveling east from the US Bank site, is a fairly dense housing area with zoning that continues to increase in density, but not resulting in substantial growth. The next node with significant growth starts at the intersection with Montreal and extends across I-35E to Otto Avenue. A number of opportunities exist along this stretch for both residential and commercial intensification, with the most significant being on the south side near the old tank farm that is being converted to a park. One high-rise building and townhomes are already planned, and additional development is likely to create hundreds of new housing units upon build-out at the allowed densities (TN3, one of St. Paul's most dense mixed use districts other than downtown). Additional opportunities, including an old school, may be longer term or less likely to occur as some site consolidation and rezoning would be needed.

Farther east, the Schmidt Brewery site is another potential significant change in existing density. Commercial development is also likely, but primarily in retail and services with limited office space. New housing units are likely to number in the hundreds. The City is investigating acquiring this site for near term redevelopment, and funding is available for redevelopment activities. Some redevelopment opportunities have been identified at the corridor approaches and enters the downtown, although these areas are currently in smaller lots and some have ongoing (although underutilized) businesses. Zoning will accommodate significantly higher density, and the proximity to downtown makes these areas likely to intensity over time.

The West 7th corridor may also potentially serve the Union Depot, although a through-routed operation to the East 7th corridor may travel on a different alignment. The Union Depot is currently is undergoing a \$243 million total site restoration to become a multi-modal regional transportation hub of local and national significance. The Union Depot will serve as the eastern terminal for Central LRT, with potential in the future to connect to other proposed transit corridors, including the Rush Line, Red Rock, and Gateway corridors. The Union Depot will be a focal point in St. Paul's Lowertown neighborhood, which has seen significant residential growth occur over the past decade.

## East 7th Street

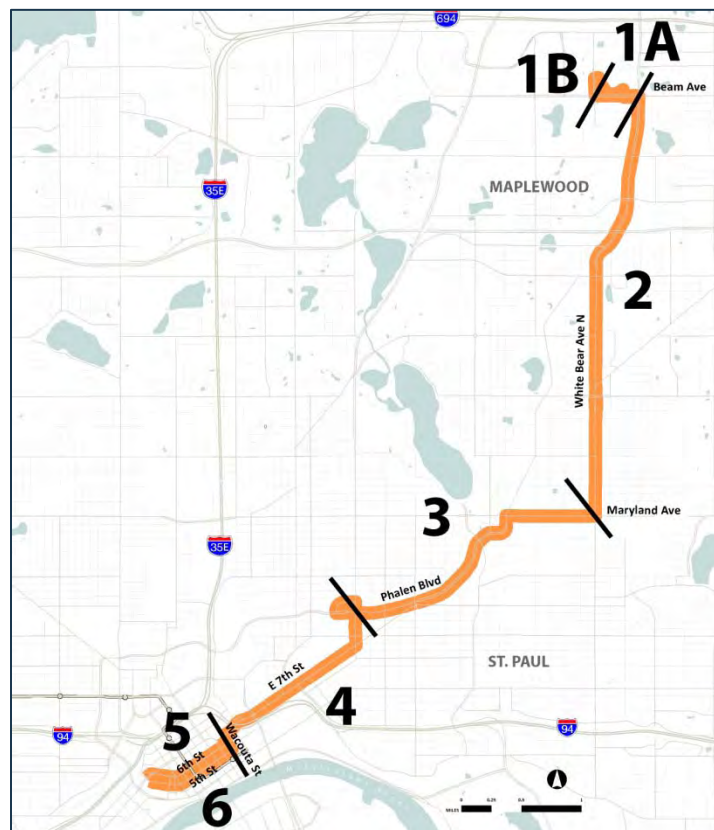
### Roadway Conditions

Roadway information was requested from the cities of Maplewood and St. Paul, Ramsey County, and MnDOT for the East 7th Street corridor. Existing conditions information is summarized by the following segments in Table 45.

- Segment 1: Maplewood Mall Area
  - Segment 1A: Maplewood Mall Drive (Beam Avenue to Southlawn Drive)
  - Segment 1B: Southlawn Drive (Maplewood Mall Drive to Beam Avenue)
- Segment 2: White Bear Avenue (Beam Avenue to Maryland Avenue)
- Segment 3: Maryland Avenue/Phalen Boulevard (White Bear Avenue to Arcade Street)
- Segment 4: Arcade Street/East 7th Street (Phalen Boulevard to Wacouta Street)
- Segment 5: 6th Street (Wacouta Street to 7th Street West)
- Segment 6: 5th Street (Wacouta Street to 7th Street West)

Figure 47 is a map of the East 7th Street corridor. Other alignment options for segment 3 are under consideration and may be carried forward instead of the Phalen-Maryland alignment based on input from St. Paul city staff. Potential alternative alignments may travel via Arcade-Maryland or via East 7th-Johnson Parkway-Maryland.

**Figure 47. East 7th Street Corridor**





**Table 45. East 7th Street Roadway Characteristics**

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
1A	No info	No info	4-way stop after 2-way stop on ring road; signal at Beam Avenue	50	2 lanes/ direction;	10-11	No	No	No	No	Park and ride facility
1B	9,500-16,000	21,400	4-way stop at Maplewood Drive; traffic signal at Beam Avenue	100	2 lanes/ direction	12		No	No	Yes-on west side.	Park and ride facility
2	22,000-30,500	25,000-39,000	Signalized intersections		2 lanes/direction	10-12	Yes	No	No	Yes	None identified
3	9,300-12,300 on Maryland Ave; 8,125-10,375 on Phalen Blvd	11,300-14,900 on Maryland Ave; 9,875-12,600 on Phalen Blvd	Signalized intersections		2 lanes/direction; a segment of Phalen Blvd has 1 lane/direction		Yes-Maryland No-Phalen Blvd.	No	Yes - Phalen	Yes	None identified
4	9,050 on Arcade St; 17,000-22,000 on E 7th St.	10,975 on Arcade St; 21,000-27,000 on E 7th St.	Signalized intersections	75 on Arcade St.	2 lanes/ direction		Yes	No-Arcade St. Yes- E 7th St.	No	Yes	None identified
5	5,500-7,450	6,675-9,650	Signalized intersections		One way street with 2-3 through lanes as well as a diamond lane		Yes	Yes	No	Yes	Streetscape improvements
6	4,875-6,800	5,925-8,275	Signalized intersections		One way street with 2-3 through lanes as well as a diamond lane		Yes	Yes	No	Yes	Streetscape improvements

Signalized intersections are located at the following locations in the corridor (listed from south to north):

- |          |   |           |  |
|----------|---|-----------|--|
| St. Paul | <ul style="list-style-type: none"><li>• 5th/6th at 7th St</li><li>• 5th St at Market (EB only)</li><li>• 5th/6th at St. Peter</li><li>• 5th/6th at Wabasha</li><li>• 5th/6th at Cedar</li><li>• 5th/6th at Minnesota</li><li>• 5th/6th at Robert</li><li>• 5th/6th at Jackson</li><li>• 5th/6th at Sibley</li><li>• 5th/6th at Wacouta</li><li>• Wacouta at 7th St</li><li>• 7th St at Wall</li><li>• 7th St at Lafayette</li><li>• 7th St at Kittson</li><li>• 7th St at Payne</li><li>• 7th St at Mounds Blvd</li><li>• 7th St at Maria</li><li>• 7th St at Hope</li><li>• 7th St at Arcade</li><li>• Arcade at Minnehaha</li><li>• Arcade at Neid Ln</li><li>• Phalen at Johnson Pkwy</li><li>• Phalen at Maryland</li><li>• Maryland at Hazelwood</li><li>• Maryland at Herbert</li><li>• Maryland at White Bear</li><li>• White Bear at Ivy</li><li>• White Bear at Arlington</li><li>• White Bear at Montana</li><li>• White Bear at Iowa</li></ul> | Maplewood | <ul style="list-style-type: none"><li>• White Bear at Larpenteur</li><li>• White Bear at Ripley</li><li>• White Bear at Frost</li><li>• White Bear at Co Rd B</li><li>• White Bear at Cope</li><li>• White Bear at TH 36 EB ramp</li><li>• White Bear at TH 36 WB ramp</li><li>• White Bear at Home Depot/Cub</li><li>• White Bear at Gervais</li><li>• White Bear at Co Rd C</li><li>• White Bear at Beam Ave</li><li>• Beam at Maplewood Mall Dr</li><li>• Beam at Southlawn</li></ul> |
|----------|---|-----------|--|

## Existing Transit Conditions – Route 64

The proposed East 7th Street corridor begins in downtown St. Paul and follows East 7th Street northeast out of downtown. It then follows Arcade Street, Phalen Boulevard, Maryland Avenue and White Bear Avenue to the Maplewood Mall Transit Center. Route 64 is Metro Transit's primary route that serves this corridor. This route only operates on portions of the proposed corridor, but serves the same general market. The corridor alignment and existing transit services are shown in Figure 48.

Route 64 begins in downtown St. Paul and travels to the northeast to North St. Paul and to Maplewood. The route ends at the Maplewood Mall Transit Center. Portions of Route 64 that operate on the proposed East 7th Street alignment are on Maryland Street and on White Bear Avenue.

Generally, all Route 64 trips operate between downtown St. Paul and the Maplewood Mall Transit Center. There are two predominant route patterns. One pattern (the western alignment) follows Prosperity, Larpenteur, English, County Road B, Prosperity and White Bear Avenue to Maplewood Mall. The other pattern (the eastern alignment) follows Maryland, White Bear, Larpenteur, Beebe, 7th Avenue, Margaret, 11th Avenue and White Bear Avenue to Maplewood Mall. Select trips are added in the peak periods to Hillcrest Shopping Center. Weekday service frequencies are generally 15 minutes, with every other trip following one of the two route patterns described above. Saturday frequencies are generally 15 minutes and Sunday frequencies are 30 minutes. The portion of Route 64 between downtown St. Paul and the branch split at Prosperity/Maryland is included in Metro Transit's Hi-Frequency Network.

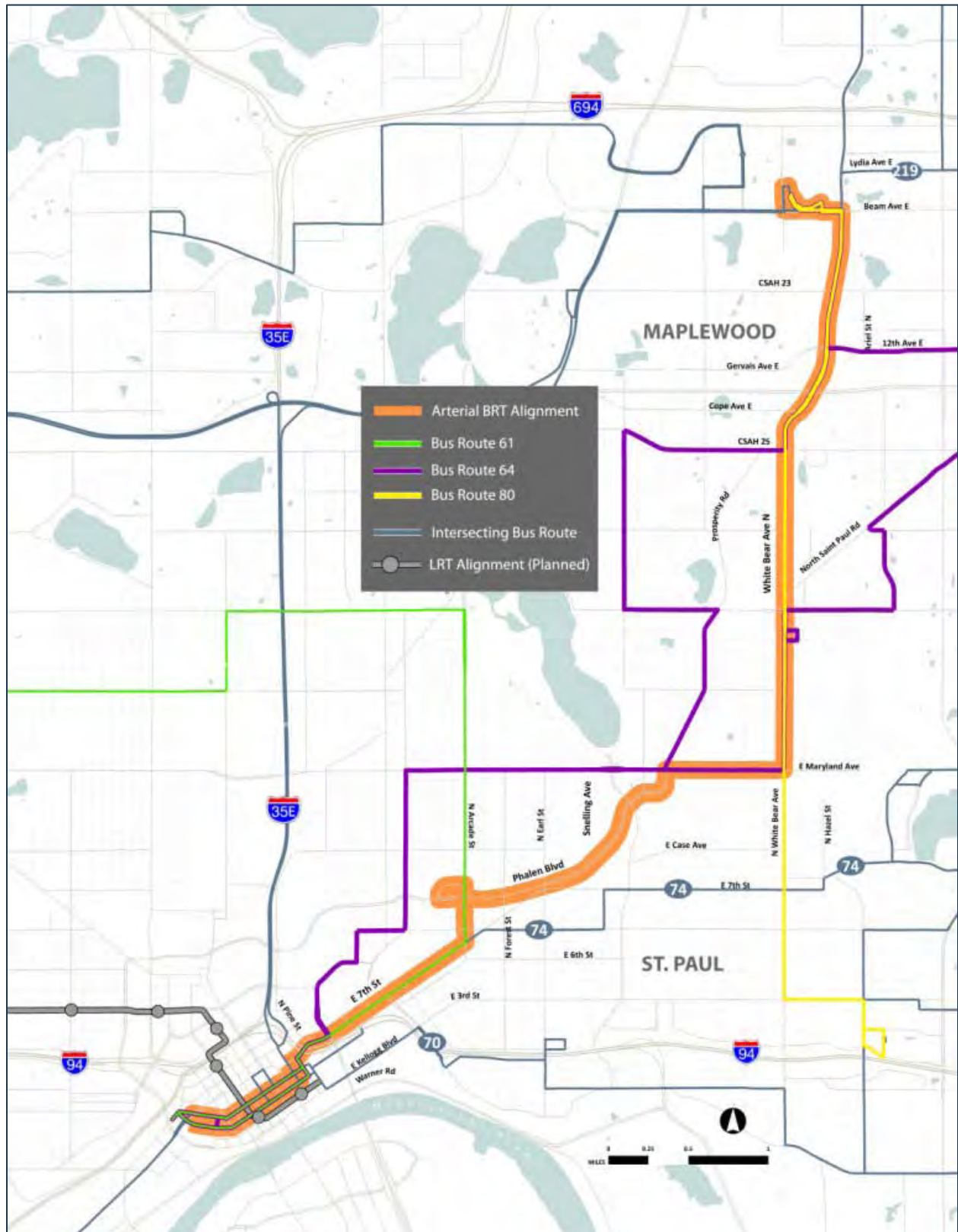
The proposed East 7th Street corridor serves a mix of residential and light industrial along East 7th Street and Arcade. The Minnesota Bureau of Criminal Apprehension is located at Phalen and Prosperity. Land uses along the southern portions of White Bear Avenue are primary residential, but turn more commercial beginning at Larpenteur, with the Hillcrest Shopping Center. Other major trip attractors along White Bear Avenue include the Maplewood Community Center at County Road B, the Cub Foods and Home Depot shopping center north of TH 36, the Maplewood Center/Rainbow Foods at Gervais Avenue, and the Maplewood Mall.

Route transfer opportunities to and from Route 64 are primarily at the Maplewood Mall Transit Center, with transfer opportunities to/from Routes 270, 272, 265, 223, and 219.

Other routes that operate on segments of the proposed East 7th Street corridor are:

- Route 61 operates on a portion of the proposed East 7th Street corridor from downtown St. Paul to Arcade and Phelan, then continues on to downtown Minneapolis via Larpenteur.
- Route 80 operates along White Bear Avenue from Maryland Avenue to the Maplewood Mall Transit Center, offering a north-south crosstown connection to the Sun Ray Transit Center.

Figure 48. East 7th Street Corridor Routes and Connecting Services



### Service Characteristics and Route Performance

Pertinent Route 64 characteristics, resources, and statistics are noted in Table 46. Daily service statistics are from Metro Transit's September 2010 System Statistics.

**Table 46. Route 64 Service Characteristics, September 2010**

Route 64	Weekday	Saturday	Sunday
<b>Route Characteristics</b>			
Hours of Operation	4:31 a.m.-1:43 a.m.	4:29 a.m.-1:43 a.m.	4:31 a.m.-12:57 a.m.
Frequency (Pk-Mid-Eve)	10-15-20	20-15-20	30-30-30
Trips (one-way)	146	120	72
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	111.8	79.8	52.0
Recovery	26.9	24.3	11.3
Deadhead	<u>8.8</u>	<u>4.1</u>	<u>3.9</u>
Total (Platform)	147.5	108.2	67.2
<b>Daily Miles</b>			
In Service	1598.1	1165.4	788.8
Deadhead	<u>185.9</u>	<u>85.8</u>	<u>71.6</u>
Total	1783.9	1251.2	860.4
<b>Bus Requirements</b>			
AM	9 reg, 1 artic	6	4
Midday	8 reg	7	4
PM	11 reg	7	4
Night	4	4	4

Key Route 64 performance indicators for 2009 are shown in Table 47. Figures are from Metro Transit's 2009 Regional Performance Report.

**Table 47. Route 64 Performance, 2009 Annual Totals**

	Weekday	Saturday	Sunday	Total
<b>In-service miles</b>	413,362	59,494	45,795	<b>518,651</b>
<b>In-service hours</b>	28,889	4,069	3,018	<b>35,976</b>
<b>In-service speed (miles per hour)</b>	14.3	14.6	15.2	<b>14.4</b>
<b>Operating cost</b>	\$4,132,913	\$594,678	\$419,285	<b>\$5,146,876</b>
<b>Fare revenue</b>	\$1,036,186	\$129,558	\$101,334	<b>\$1,267,078</b>
<b>Passengers</b>	1,149,279	158,642	113,989	<b>1,421,910</b>
<b>Average daily passengers</b>	4,507	3,051	2,073	--
<b>Average fare per passenger</b>	\$0.90	\$0.82	\$0.89	<b>\$0.87</b>
<b>Total subsidy</b>	\$3,096,727	\$465,119	\$317,951	<b>\$3,879,798</b>
<b>Subsidy per passenger</b>	\$2.69	\$2.93	\$2.79	<b>\$2.81</b>
<b>Passengers per in-service hour</b>	39.78	38.99	37.77	<b>38.85</b>
<b>Passengers per in-service mile</b>	2.78	2.67	2.49	<b>2.74</b>
<b>Farebox recovery ratio</b>	25.1%	21.8%	24.2%	<b>24.6%</b>

### On-Time Performance

Metro Transit defines “on-time” as departing between one minute early and five minutes late. The systemwide on-time performance goal was 88 percent in October 2010. Table 48 depicts Route 64 weekday on-time performance compared to the systemwide average.

**Table 48. Route 64 On-Time Performance, October 2010**

	On Time	Late	Early
<b>Route 64</b>	89.7	8.6	1.7
<i>Eastbound</i>	87.5	10.7	1.8
<i>Westbound</i>	92.3	6.2	1.6
<b>Systemwide</b>	87.7	9.8	2.5

In October 2010, Route 64 was on-time 89.7 percent of the time on weekdays. 8.6 percent of all weekday departures were late while only 1.7 percent were recorded as early. Thus, Route 64’s on-time performance was 2.0 percentage points better than the systemwide average. The westbound direction performed better than the eastbound direction.

### Stop-Level Ridership

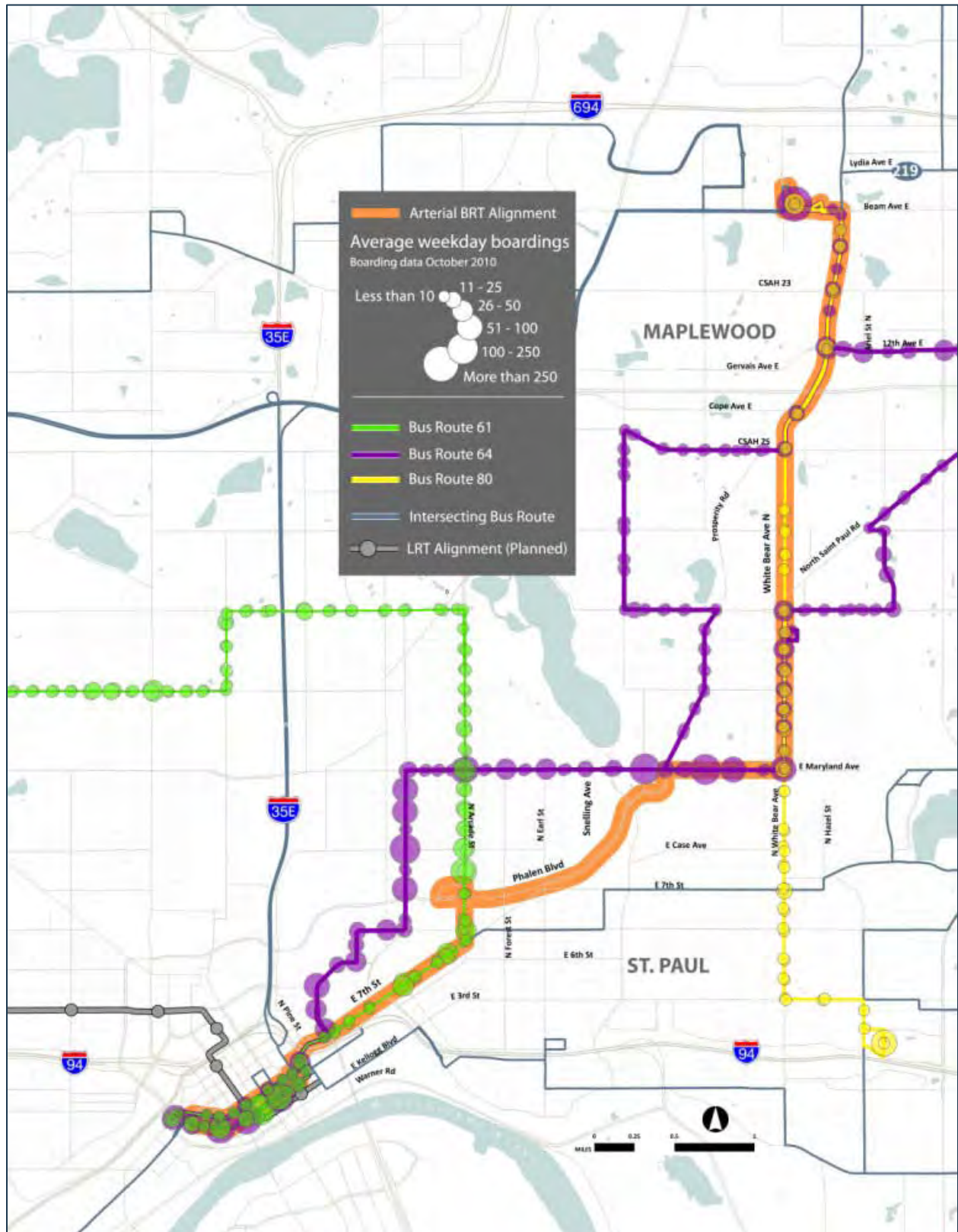
Current Route 64 average daily ridership (October 2010 APC data) is as follows:

- Weekdays: 4,719
- Saturdays: 3,191
- Sundays: 2,129

About 1,081 of the 4,719 weekday boardings on Route 64 occur along the segments that fall within the defined East 7th Street corridor. There are 595 boardings on Route 61, from downtown St. Paul to Phalen and Arcade. There are 126 boardings on Route 80 north of Maryland. Cumulatively, these routes account for about 1,800 boardings along the proposed East 7th Street corridor.

Figure 49 illustrates weekday boardings by stop for routes operating in the East 7th Street corridor.

Figure 49. East 7th Street Corridor Weekday Ridership by Stop, October 2010



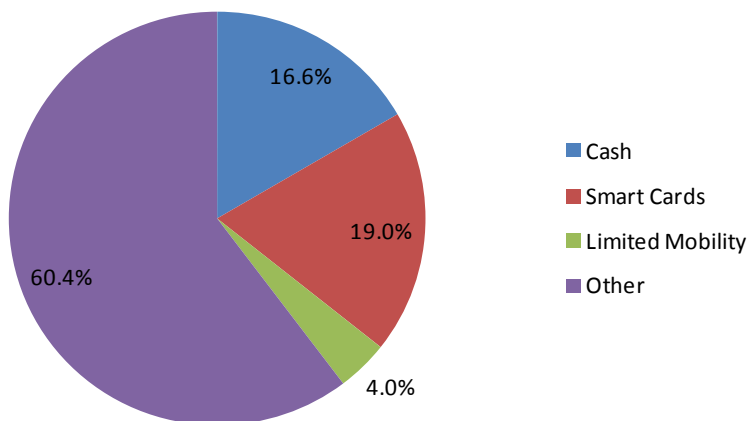
### Ridership by Fare Type/Media

For purposes of isolating fare categories with similar delay characteristics, fare payment methods are aggregated into the following categories:

- Cash
- Limited Mobility (both Farebox and Smartcard)
- Smartcard (not including Limited Mobility)
- Other (includes transfers and other pass payments through the farebox, tokens, and passengers who do not pay)

Figure 50 shows distribution of fare payment for Route 64. Smartcard usage is about 19 percent of total boardings, which is less than typical for urban local routes. Limited mobility boardings (both farebox and Smart Card) are 4.0 percent of total boardings. Cash boardings are 16.6 percent.

**Figure 50. Route 64 Ridership by Fare Category, October 2010**



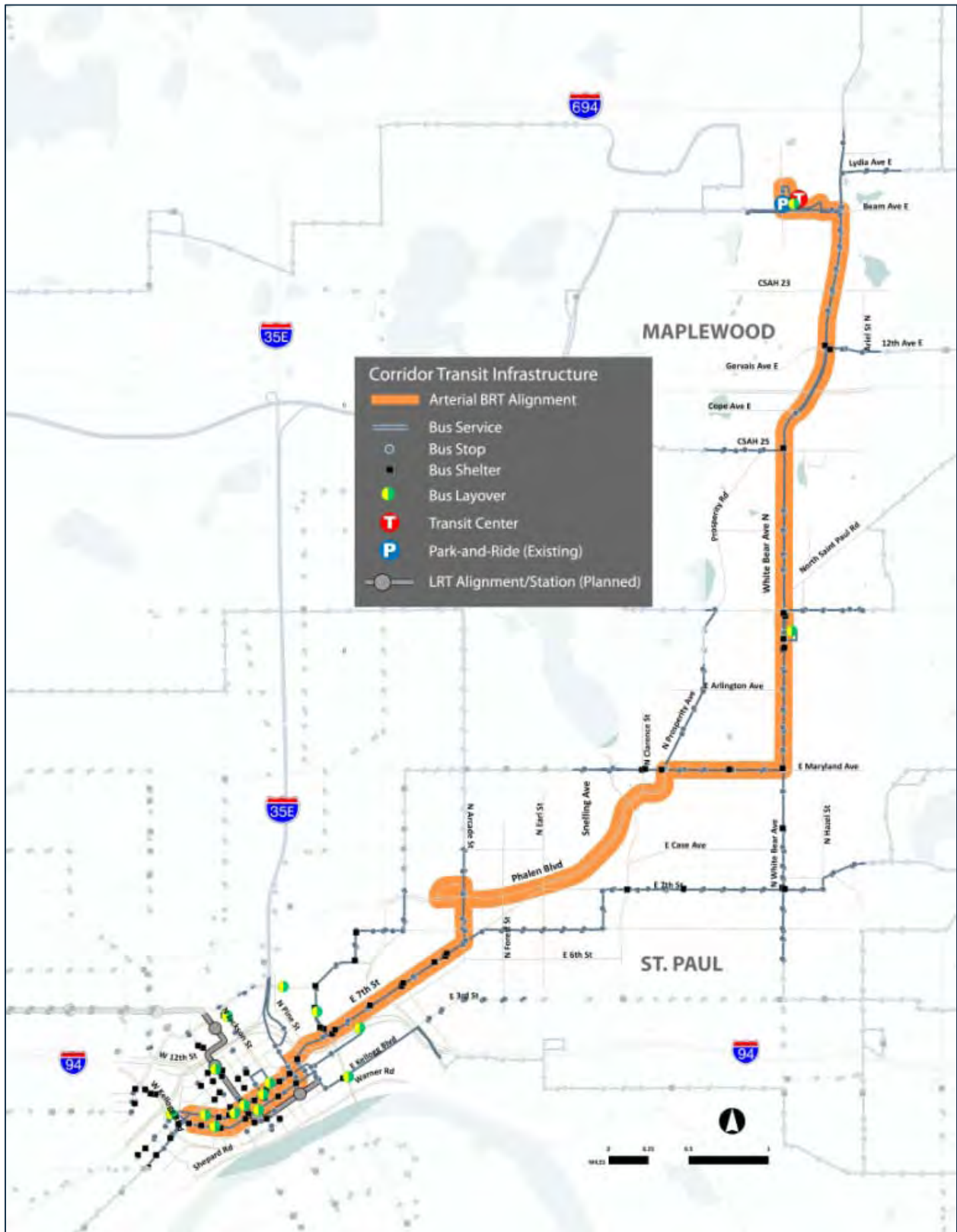
### Transit Infrastructure

Existing transit infrastructure in the East 7th Street corridor is shown in Figure 51.

- Bus stops are spaced at approximately 6-8 per mile along East 7th Street, Maryland Avenue, and most of White Bear Avenue. There are no bus stops along Phalen Boulevard, as there is currently no service on this segment of the corridor.
- Passenger waiting shelters are located roughly every ¼ mile on East 7th, and generally at transfer points only on Maryland and White Bear Avenue.
- Existing layovers are located at the Smith Avenue Ramp in downtown St. Paul and at Maplewood Mall on the north end of the corridor.
- The corridor is anchored by a large park-and-ride at Maplewood Mall; this facility is scheduled for expansion in the near future. There are no other existing or planned facilities in the corridor.



Figure 51. East 7th Street Corridor Existing Transit Infrastructure



## Planned Land Use Changes

### City of St. Paul (Planners Luis Pereira, Allan Torstenson)

The St. Paul Comprehensive Plan describes the East 7th corridor as primarily mixed use with substantial redevelopment and opportunity sites. Some of St. Paul's most dense housing and job intensity (outside of downtown) lie along this corridor. Staff believes that existing high density areas have the market demand and characteristics sufficient to see continued increases in density over time.

The most significant site is the 3M site. Buildings are being actively marketed by the Port Authority and the market is showing some response. The Port Authority site will be a job center with an estimated 1,200 to 1,700 jobs, but no housing. However, the surrounding area is able and likely to accommodate new housing in both redevelopment and infill of currently vacant sites.

Farther east, redevelopment nodes include the Globe site, the Hamms Brewery site, and the Hospital Linen site. Each of these are sufficiently large to make for significant redevelopment projects, and current zoning supports such efforts. The proximity to Metro State University is a substantial market draw, particularly for denser housing. The Hamms Brewery site will include reuse of historic buildings.

East from these sites is the Phalen Village redevelopment that was burgeoning prior to the 2008 recession still has substantial area for intensification. A number of condo and other high density projects were planned at that time. Staff believes the Phalen Village area will be an early recovery development site.

The remainder of the East 7th corridor in St. Paul is not likely to see significant changes over time. A few nodes have some possibility for notable changes, but the market appears to be favoring investment in denser nodes. The Maryland/White Bear Avenue intersection has some potential, although probably longer term. The Hillcrest site at the north end of St. Paul and into Maplewood was the site of a Calthorpe urban design study approximately 10 years ago, recognizing the potential based on underutilized parcels, potential assembly, and transportation access. However, market response is currently not favorable.

## Robert Street

### Roadway Conditions

Roadway information was requested from the cities of St. Paul and West St. Paul for the Robert Street corridor. Existing conditions information is summarized by the following segments in Table 49.

- Segment 1: Robert Street (University Avenue to Fillmore Avenue N)
- Segment 2: Robert Street (Fillmore Avenue N to Annapolis Street E)
- Segment 3: Robert Street (Annapolis Street E to Mendota Road)
- Segment 4: Mendota Road

Figure 52 is a map of the Robert Street corridor.

Figure 52. Robert Street Corridor



**Table 49. Robert Street Roadway Characteristics**

Segment	Current Traffic Volumes (AADT)	2030 Traffic Volumes (AADT)	Traffic Controls	Typical ROW (feet)	Number of Lanes	Typical Width of Lanes (feet)	Turn Lanes	Parking	Bike Lanes	Sidewalks	Changes Planned in Next 5-10 years
1	4,825-13,275	5,850-15,750	Signalized intersections		1 lane/ direction north of I-94; 2 lanes/direction south of I-94		Yes	Yes	No	Yes	None identified.
2	12,975-15,400	15,750-18,700	Signalized intersections		2 lanes/ direction		Yes	No	No	Yes	None identified.
3	16,300-26,000	20,000-29,000	Signalized intersections	80	2 lanes/ direction south of Butler Avenue; 1 lane/ direction north of Butler Avenue		Yes	Yes- between Butler Street and Annapolis Street; No- south of Butler Street	No	Yes	Potential road widening and pedestrian facilities.
4	8,700				1 lane/direction		Yes	No	No	Yes	None identified.

Signalized intersections in the corridor are at the following locations (listed from north to south):

- |          |   |               |   |
|----------|---|---------------|---|
| St. Paul | <ul style="list-style-type: none"><li>• Robert at 12th St</li><li>• Robert at 11th St</li><li>• Robert at 9th St</li><li>• Robert at 8th St</li><li>• Robert at 7th St</li><li>• Robert at 6th St</li><li>• Robert at 5th St</li><li>• Robert at 4th St</li><li>• Robert at Kellogg Blvd</li><li>• Robert at Fillmore</li><li>• Robert at Plato Blvd</li><li>• Robert at Cesar Chavez</li><li>• Robert at Curtice</li></ul> | West St. Paul | <ul style="list-style-type: none"><li>• Robert St at Annapolis St</li><li>• Robert St at Bernard St</li><li>• Robert St at Butler St</li><li>• Robert St at Moreland Ave</li><li>• Robert St at Emerson Ave</li><li>• Robert St at Thompson Ave</li><li>• Robert St at Wentworth Ave</li><li>• Robert St at Lothenbach Ave</li><li>• Robert St at Marie Ave</li><li>• Robert St at Mendota Rd</li></ul> |
|----------|---|---------------|---|

## Existing Transit Conditions – Route 68

The proposed Robert Street corridor begins at the State Capitol, north of downtown St. Paul, and follows Robert Street south to Mendota Road. Route 68 is the primary Metro Transit route that serves this corridor. The corridor alignment and existing transit services are shown in Figure 53.

Route 68 begins north of downtown St. Paul at the McCarron Hills Shopping Center. It generally follows Jackson into downtown St. Paul. The route crosses the Mississippi River on Robert Street, and continues south to Thompson Avenue. There is a mid-route split alignment at this point, with select trips (Southbound route patterns C & J) following Thompson and 12th Avenue to Southview, and other trips (Southbound route patterns B, D, E, F, G and K) continuing south on Robert Street to Marie, Oakdale and Southview. Route 68 service patterns join together at Southview Boulevard and 12th Avenue, and then continue on Southview and 5th Avenue through South St. Paul and Inver Grove Heights. Depending on the route pattern, trips end at 5th Avenue and South St., 75th St. and Dawn Avenue, 80th St. and Concord Boulevard Inver Hills Community College, and the Arbor Pointe Walmart.

Weekday service frequencies on the common trunk (to Robert Street and Thompson) are generally 10 to 15 minutes in the peak periods and 20 to 30 minutes in the midday. Saturday and Sunday frequencies are generally 30 minutes.

Within the defined Robert Street corridor, Route 68's alignment serves the State Capitol, downtown St. Paul, Humboldt Senior High (one block off of Robert Street), Signal Hills Shopping Center (at Butler Avenue), Menards/Goodwill (at Thompson Avenue) Walmart (at Wentworth Avenue) and Target (at Marie Avenue). Route 68's alignment turns off of Robert Street at Marie Avenue. South of Marie Avenue is Southview Square Shopping Center, Cub Foods and Home Depot. Route 68's alignment travels through a mix of commercial and single family areas along Robert Street. After crossing the Mississippi River, the alignment travels through lower density commercial/light industrial. South of Caesar Chavez, land use characteristics change to medium density residential. Commercial uses become more predominant beginning at Butler Avenue, with big box retail at the south end of the corridor (Menards, Wal-Mart, Target).

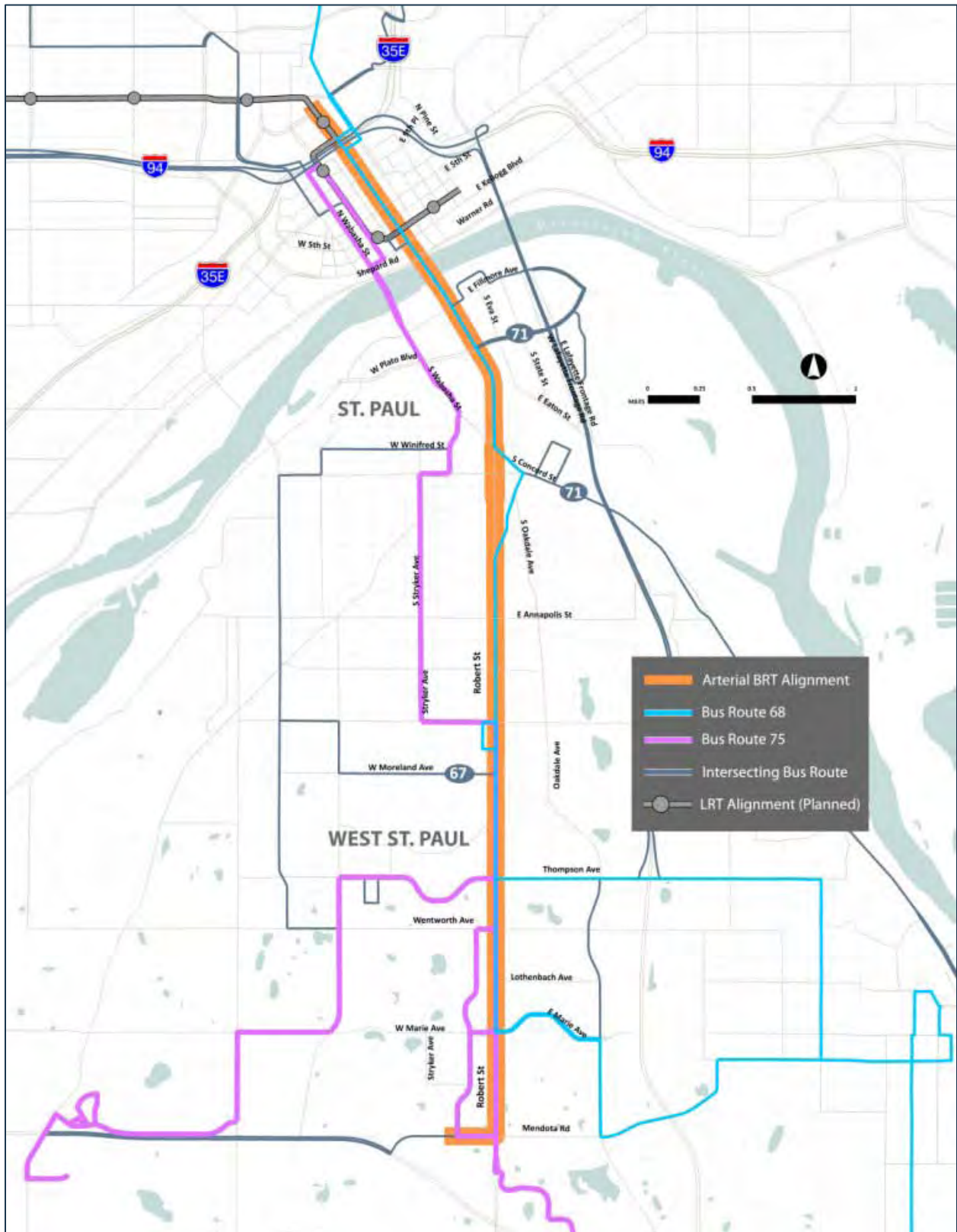
Route transfer opportunities to and from Route 68 within the defined Robert Street corridor are as follows:

- Robert Street and Cesar Chavez Street – Route 71
- Butler Avenue/Signal Hills Shopping Center – Route 75
- Moreland Avenue – Route 67
- Thompson Avenue – Routes 67, 75
- Marie Avenue – Routes 75, 452

Route 68 will also have transfer opportunities to the Central Corridor LRT line in downtown St. Paul. Other routes that operate on portions of the proposed Robert Street corridor are:

- Route 67 from Thompson Avenue to Butler Avenue
- Route 75 from Mendota Road to Butler Avenue

Figure 53. Robert Street Corridor Routes and Connecting Services



### Service Characteristics and Route Performance

Pertinent Route 68 characteristics, resources, and statistics are noted in Table 50. Daily service statistics are from Metro Transit's September 2010 System Statistics.

**Table 50. Route 68 Service Characteristics, September 2010**

Route 68	Weekday	Saturday	Sunday
<b>Route Characteristics</b>			
Hours of Operation	5:11 a.m.-1:53 a.m.	5:23 a.m.-1:46 a.m.	6:39 a.m.-12:16 a.m.
Frequency (Pk-Mid-Eve)	NB: 20-26-60 SB: AM 26/PM 14-24-60	30-30-60	30-30-60
Trips (one-way)	91	64	54
<b>Route Statistics</b>			
<b>Daily Hours</b>			
In Service	88.6	59.5	46.1
Recovery	17.5	13.3	11.7
Deadhead	<u>9.5</u>	<u>3.0</u>	<u>3.2</u>
Total (Platform)	115.6	75.9	61.0
<b>Daily Miles</b>			
In Service	1356.4	885.9	713.0
Deadhead	<u>235.1</u>	<u>76.6</u>	<u>67.4</u>
Total	1591.5	962.5	780.4
<b>Bus Requirements</b>			
AM	9	5	4
Midday	5	5	4
PM	10	5	4
Night	3	2	3

Key Route 68 performance indicators for 2009 are shown in Table 51. Figures are from Metro Transit's 2009 Regional Performance Report.

**Table 51. Route 68 Performance, 2009 Annual Totals**

	Weekday	Saturday	Sunday	Total
In-service miles	333,392	45,231	41,400	<b>420,024</b>
In-service hours	21,915	3,037	2,660	<b>27,612</b>
In-service speed (miles per hour)	15.2	14.9	15.6	<b>15.2</b>
Operating cost	\$3,165,059	\$415,846	\$380,040	<b>\$3,960,944</b>
Fare revenue	\$810,782	\$88,730	\$75,013	<b>\$974,525</b>
Passengers	772,825	100,063	81,830	<b>954,718</b>
Average daily passengers	3,031	1,924	1,488	--
Average fare per passenger	\$1.05	\$0.89	\$0.92	<b>\$0.95</b>
Total subsidy	\$2,354,276	\$327,116	\$305,027	<b>\$2,986,419</b>
Subsidy per passenger	\$3.05	\$3.27	\$3.73	<b>\$3.35</b>
Passengers per in-service hour	35.26	32.95	30.76	<b>32.99</b>
Passengers per in-service mile	2.32	2.21	1.98	<b>2.27</b>
Farebox recovery ratio	25.6%	21.3%	19.7%	<b>24.6%</b>



### On-Time Performance

Metro Transit defines “on-time” as departing between one minute early and five minutes late. The systemwide on-time performance goal was 88 percent in October 2010. Table 52 depicts Route 68 weekday on-time performance compared to the systemwide average.

**Table 52. Route 68 On-Time Performance, October 2010**

	On Time	Late	Early
<b>Route 68</b>	92.8	3.6	3.6
<i>Northbound</i>	94.2	3.4	2.4
<i>Southbound</i>	91.6	3.7	4.7
<b>Systemwide</b>	87.7	9.8	2.5

In October 2010, Route 68 was on-time 92.8 percent of the time on weekdays. 3.6 percent of all weekday departures were late and 3.6 percent were recorded as early. Thus, Route 68’s on-time performance was 5.1 percentage points better than the systemwide average. The northbound direction performed slightly better than the southbound direction.

### Stop-Level Ridership

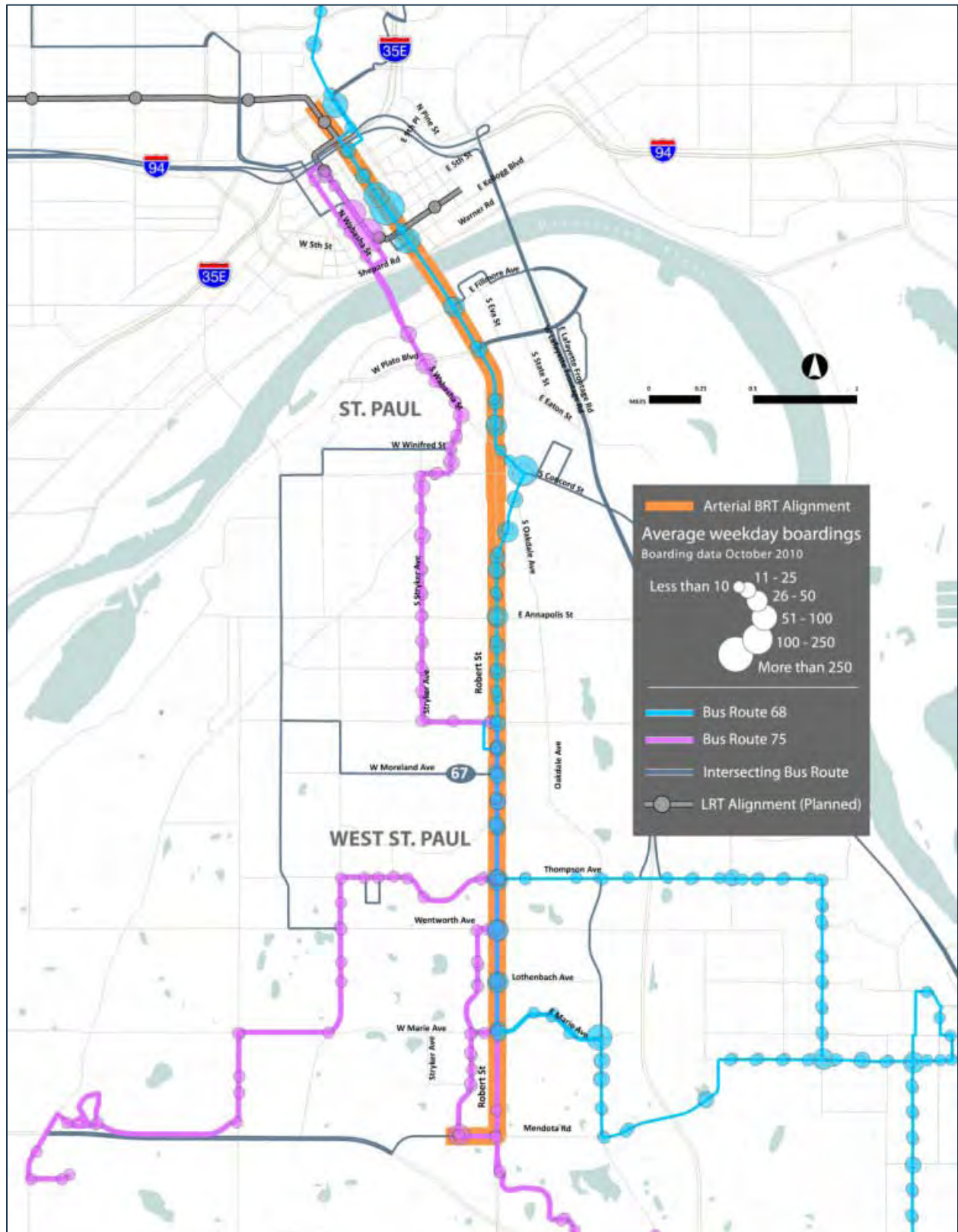
Current Route 68 average daily ridership (October 2010 APC data) is as follows:

- Weekdays: 3,018
- Saturdays: 1,826
- Sundays: 1,444

About 2,030 of the 3,018 weekday boardings are occurring within the defined Robert Street corridor. The downtown segment of the corridor had 1,153 boardings and the segment south of the Mississippi River (to Marie Avenue) had 877 boardings. Route 75 also operates on a segment of Robert Street (from Butler Avenue to Mendota Road). There are a total of 782 weekday boardings on Route 75, of which 131 are occurring on this segment of Robert Street. Combined, Routes 68 and 75 have about 2,800 total weekday boardings along the proposed Robert Street corridor.

Figure 54 illustrates weekday boardings by stop for routes operating in the Robert Street corridor.

Figure 54. Robert Street Corridor Weekday Ridership by Stop, October 2010



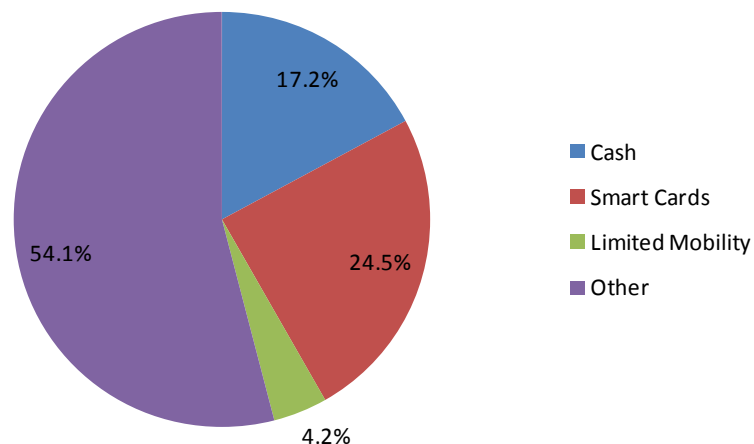
### Ridership by Fare Type/Media

For purposes of isolating fare categories with similar delay characteristics, fare payment methods are aggregated into the following categories:

- Cash
- Limited Mobility (both Farebox and Smartcard)
- Smartcard (not including Limited Mobility)
- Other (includes transfers and other pass payments through the farebox, tokens, and passengers who do not pay)

Figure 55 shows distribution of fare payment for Route 68. Smartcard usage is about 25 percent of total boardings. Limited mobility boardings (both farebox and Smartcard) are 4.2 percent of total boardings. Cash boardings are 17.2 percent. These percentages are typical for Urban Local routes.

**Figure 55. Route 68 Ridership by Fare Category, October 2010**



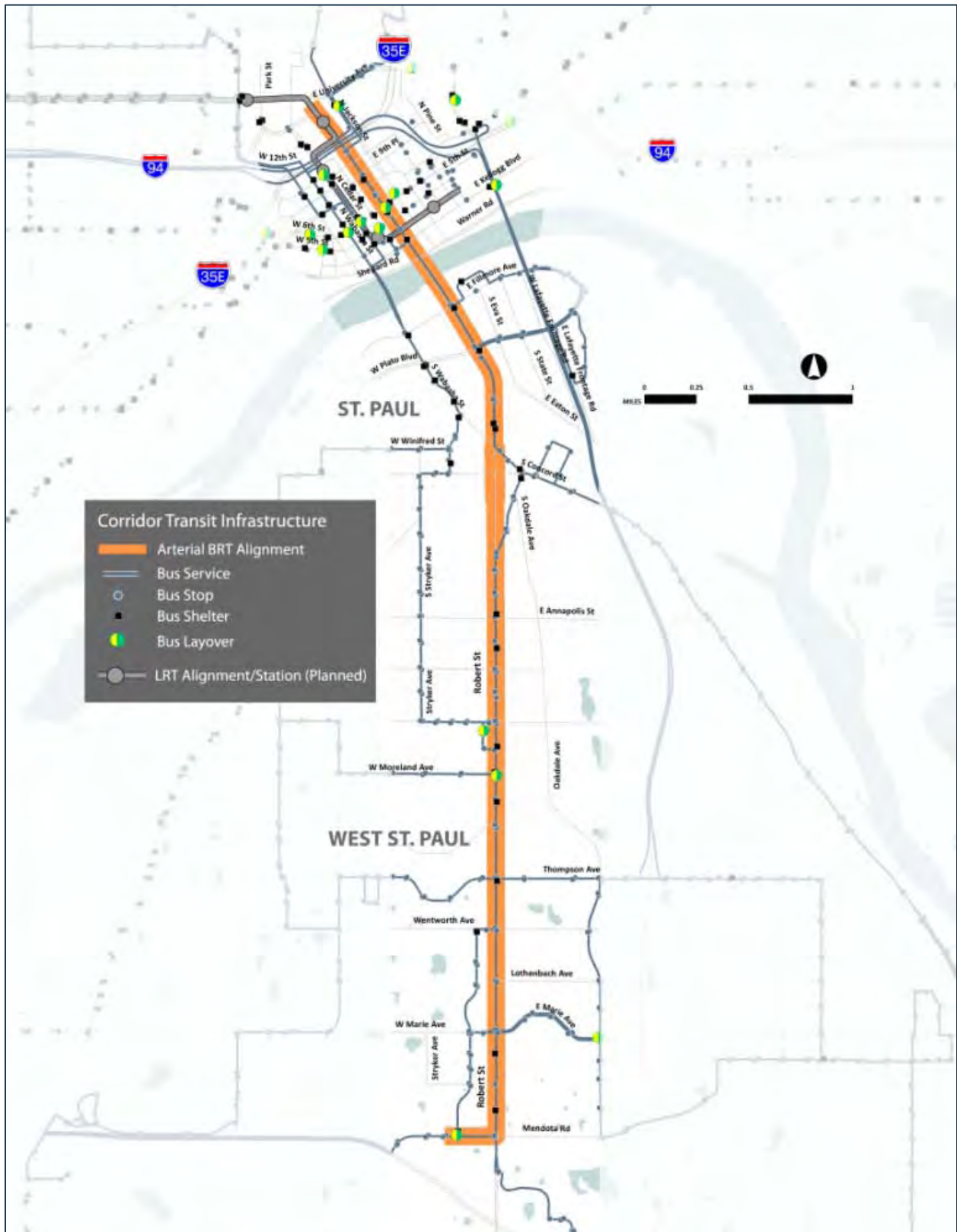
### Transit Infrastructure

Existing transit infrastructure in the Robert Street corridor is shown in Figure 56.

Bus stops are spaced at approximately four per mile in much of the corridor south of downtown St. Paul, with more frequent stops between Sidney Street and Thompson Avenue.

- Passenger waiting shelters are generally located at major intersections only.
- Existing layovers are located at both corridor termini; in downtown St. Paul, a layover is located on Jackson Street, and at the southern end, a current Route 75 layover is located at Mendota Road and Livingston.
- There are no existing or planned park-and-rides in the immediate corridor vicinity.

Figure 56. Robert Street Corridor Existing Transit Infrastructure



## Planned Land Use Changes

### City of St. Paul (Kate Reilly)

Robert Street in St. Paul is designated in the city's Comprehensive Plan as a mixed use corridor with a number of notable growth nodes and opportunity sites. Some of the most significant growth will occur immediately across the river from downtown, in the West Side Flats area where the first stage of a development is planned (160 housing units). The larger "urban village" concept will take many years to fully build out, but has all the potential for occurring (large lots, amenities, appropriate zoning, existing demand) if market demand is strong enough. Given that this development site is below the bluff and immediately across from downtown, City staff anticipates that enhancements to local bus service, rather than the ABRT concept, is likely to serve this growth area.

The node at Robert Street and Cesar Chavez is already a strong commercial node and is planned to be significantly denser in both housing and commercial activity. The area is zoned TN2, a fairly dense mixed use designation. The area is currently undergoing community planning effort and will likely see a modest increase in housing density in the relatively near future, with 100 units or more. Housing will likely be affordable, and transit dependence somewhat higher than other areas.

### City of West St. Paul (Jim Hartshorn)

In the City of West St. Paul's Comprehensive Plan there is a reference to the 2030 Metropolitan Council Transportation Policy Plan's recommendation to study a Robert Street transitway. The Plan states that the "The City should continue to be involved in these transit discussions." The City's Plan incorporated elements of the Renaissance (Robert Street) Plan (2001) that recommended substantial changes to the urban design standards and mix of land uses along Robert Street. The Plan recommended changes to building setbacks, mixed use districts, and limited the number of new allowable auto-centric commercial uses.

Mr. Hartshorn does not envision any decrease in employment along Robert Street. Instead, he sees that there will be more shopping center districts that will increase employment and business activity, particularly north of Butler Avenue and in the Signal Hills Shopping Center. In the past several years he has observed that commercial areas are more intensively developed when they are redeveloped. The city is currently working with Dakota County to purchase parcels totaling about two acres north of Butler Avenue, demolish the existing structures, and market the land for redevelopment. He expects an increase in employment from this activity. Other commercial redevelopment activity in the Corridor includes the Robert Street Marketplace, which will result in an additional 30,000-40,000 retail square footage to complement the existing Cub Foods.

The City is actively engaged with the Robert Street Improvement project, a \$7 million infrastructure project to install medians, widen the street in some areas, construct a pedestrian crossing bridge, and re-align some intersections. Construction is expected to begin in 2014.

The Dakota and Ramsey County Regional Railroad Authorities will soon conduct an Alternatives Analysis study to explore the appropriateness and type of transit improvement in the corridor.

## Purpose and Need

### Project History

In 2008, Metropolitan Council completed the *2030 Transit Master Study*. This study evaluated and ranked more than two dozen potential rail and busway corridors. The study also identified local, arterial, and express bus service improvements, as well as land use and demographic issues that affect transit.

The *2030 Transit Master Study* screened high ridership arterial corridors for their potential for light rail transit (LRT) or dedicated busways. Although some of the arterial corridors showed promising ridership results for LRT, high costs and limited right-of-way in the corridors meant that LRT or dedicated busways were most likely not feasible. The study showed that substantial ridership growth could still be achieved through faster service and higher frequency in these corridors. This would help provide faster more efficient transit service which will likely increase ridership—helping reach the goal of doubling ridership by 2030 as stated in the Metropolitan Council’s *2030 Transportation Policy Plan* (TPP).

The TPP incorporated the results/recommendations of the *2030 Transit Master Study*. The TPP established Arterial BRT as a variation of BRT that should be studied and implemented in nine corridors: Central Avenue, Snelling Avenue/Ford Parkway, West Broadway, Nicollet Avenue, Chicago Avenue, East 7th Street, Robert Street, West 7th Street, and American Boulevard. This study will evaluate and recommend improvements to the nine corridors identified in the TPP, as well as the Lake Street and Hennepin Avenue corridors, which were added due to other factors.

In addition to the studies completed by Metropolitan Council, other studies have been completed by partner agencies on some of the identified corridors. These additional studies are:

- Robert Street Transit Feasibility Study (Dakota County Regional Railroad Authority, 2008)
- Minneapolis Streetcar Feasibility Study (City of Minneapolis, 2007)
- Minneapolis Streetcar Funding Study (City of Minneapolis, 2010)

### Purpose and Need for Improvements

The 11 corridors to be studied and evaluated for improvements all have unique attributes; however, they share many common characteristics. The corridors are mainly in highly developed areas and have robust existing bus service. In each of the corridors, an increase in population, households, and employment is expected. While the forecasted growth is relatively minor in some corridors, the percent growth in other corridors is forecasted to exceed that of the Twin Cities Metro Area.

BRT on arterial streets could provide limited-stop service and use technology improvements to provide a faster trip in these corridors, using branding to differentiate the service from regular bus routes. ABRT provides improved speed, frequency, passenger experience, and reliability by upgrading vehicle, runningway, and station quality without the higher capital costs and right-of-way requirements of an LRT or dedicated busway corridor. The improvements would lead to lower operating costs and improved ridership. Based on the information presented in this memorandum, Table 53 provides a framework for why the 11 corridors are included in this study.

**Table 53. Corridor-Specific Purpose and Need Elements**

	Snelling	Lake	American	Central	Broadway	Hennepin	Nicollet	Chicago	West 7th	East 7th	Robert
<b><i>Corridor transit service is a critical element of the regional transportation system</i></b>											
Corridor forms important connection to regional fixed guideway transit system	•	•	•	•	•	•	•	•	•	•	•
High existing corridor transit demand offers opportunity for service improvement <sup>6</sup>	•	•		•	•	•	•	•	•	•	•
High demand challenges existing transit capacity <sup>7</sup>		•		•		•	•	•			
Corridor serves large proportion of people who depend on transit <sup>8</sup>	•	•		•	•	•	•	•	•	•	•
Corridor serves an area with rapidly growing population and/or employment <sup>9</sup>			•	•	•	•	•	•	•	•	•
Existing passenger waiting facilities offer opportunities for improvement	•	•	•	•	•	•	•	•	•	•	•
<b><i>Speed and reliability improvements are required to decrease costs and improve ridership</i></b>											
Slow transit travel speeds lead to high operating cost and lower service attractiveness <sup>10</sup>		•		•	•	•	•	•		•	
Customer boarding time and fare collection cause delay	•	•	•	•	•	•	•	•	•	•	•
Roadway configuration and intersection controls challenge speed and reliability <sup>11</sup>	•	•	•	•	•	•	•	•	•	•	•
Roadway configuration presents opportunities for travel time savings	•	•	•	•	•	•	•	•	•	•	•
Planned roadway improvements offer potential for construction coordination <sup>12</sup>	•	•	•	•			•		•		•

<sup>6</sup> Corridor meets FTA Very Small Starts passenger threshold of 3,000 average weekday corridor boardings.

<sup>7</sup> Greater than 6,000 average weekday corridor boardings and observed loads above regional standards.

<sup>8</sup> More than 10% of households have zero vehicles (2000 Census)

<sup>9</sup> Forecasted 2000-2030 growth in population and/or employment greater than 20%

<sup>10</sup> Average weekday in-service speed less than 15 miles per hour

<sup>11</sup> Primary affected corridor route overall on-time performance below system goal of 88%

<sup>12</sup> Planned improvements identified within portion(s) of corridor

## Arterial BRT Goals and Objectives

Arterial BRT mode treatments in the eleven study corridors will focus on developing new ridership to contribute toward *Transportation Policy Plan* ridership goals by achieving the following objectives:

1. Provide mobility benefits by connecting major destinations along the study corridors more quickly with more frequent transit service.
2. Provide an enhanced customer experience by developing passenger infrastructure and information commensurate with existing and planned levels of transit service.
3. Seamlessly integrate with existing and planned transit systems.
4. Implement affordable transit improvements.
5. Support anticipated corridor growth and redevelopment.

In upcoming phases of the *Arterial Transitway Corridors Study*, concept plans will be gathered or developed in each of the corridors. Evaluation criteria will also be developed based on identified goals and objectives listed above. The evaluation criteria will be used to evaluate concept plans, identify those that best meet the identified objectives, and prioritize corridor improvements for implementation.