

SECTION THREE: RACIAL TRENDS IN THE REGION

The growing racial and ethnic diversity of the region

The Minneapolis-Saint Paul-Bloomington metropolitan area has been and remains one of the least racially and ethnically diverse regions in the nation. In 1990, the 13-county metro was the second-least racially and ethnically diverse metro region among the nation's largest 50 metros. Yet, the metro experienced the second-fastest growth in population of color between 1990 and 2010, emerging as the seventh-least diverse metro among these metros by 2010.

Figure 3.1 shows the racial and ethnic breakdown of the population in the seven-county region in 1990, 2000, and 2010.ⁱ Between 1990 and 2010, the total number of residents of color in the region more than tripled—pulling up the share of people of color in the region's population from 9% in 1990 to 24% in 2010. In particular, the number of Latinos in the region grew considerably since 1990, more than quadrupling in the past 20 years, and by 74% in the last decade.

3.1 Population by race and ethnicity in the Twin Cities region in 1990, 2000 and 2010

	1990		2000		2010	
	#	%	#	%	#	%
White, non-Latino	2,076,938	91%	2,197,626	83%	2,173,218	76%
Black, non-Latino	87,744	4%	154,113	6%	234,334	8%
Latino	36,716	2%	95,902	4%	167,558	6%
Asian, non-Latino	63,208	3%	121,425	5%	183,587	6%
Native American, non-Latino	22,128	1%	18,592	1%	17,452	1%
A race not listed above or multiracial, non-Latino	1,987	<1%	54,398	2%	73,418	3%
All people of color	211,783	9%	444,430	17%	676,349	24%
Total Population	2,288,721	-	2,642,056	-	2,849,566	-

Source: U.S. Census Bureau, Decennial Census, 1990, 2000 and 2010.

The growth in the number of people of color has transformed the racial composition of the Twin Cities region, changing the residential patterns of the region in complex ways. Cities across the region have become racially diverse as the presence of people of color in the suburbs has grown. While the number of people of color living in Minneapolis and Saint Paul is increasing, the number of people of color living in suburban and rural areas is increasing even faster (Figure 3.2). As a result, the percentage of people of color living in suburban locations increased from 36% in 1990, to 44% in 2000, and to 59% in 2010. In 2010, a majority of each racial and ethnic group lived in suburban or rural areas; in 1990, only white non-Latino residents lived predominantly in suburban or rural areas. For example, 52% of black non-Latino residents lived in suburban or rural areas in 2010, while just 24% did in 1990.

ⁱ The Census Bureau's measurement of race changed between 1990 and 2000. In 1990, respondents could choose only one racial category. In 2000 and 2010, respondents could choose more than one racial category.

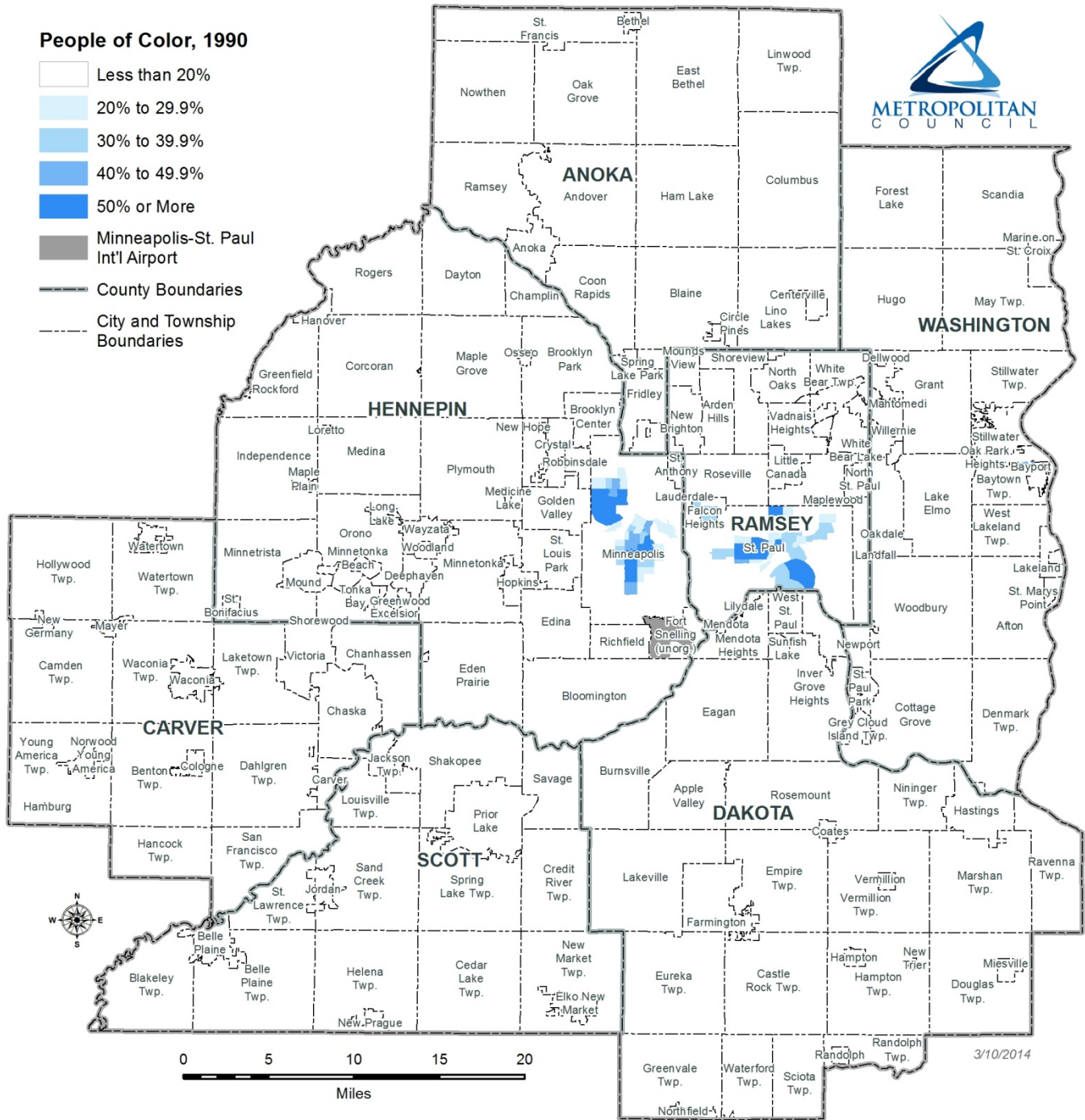
3.2 Race and ethnicity of residents by location in the Twin Cities region in 1990, 2000 and 2010

		1990		2000		2010	
		#	%	#	%	#	%
White, non-Latino	Minneapolis and Saint Paul	504,159	24%	422,978	19%	390,087	18%
	Suburban and rural areas	1,572,779	76%	1,774,648	81%	1,783,131	82%
	Twin Cities region	2,076,938	-	2,197,626	-	2,173,218	-
Black, non-Latino	Minneapolis and Saint Paul	66,739	76%	100,784	65%	113,591	48%
	Suburban and rural areas	21,005	24%	53,329	35%	120,743	52%
	Twin Cities region	87,744	-	154,113	-	234,334	-
Latino	Minneapolis and Saint Paul	19,376	53%	51,890	54%	67,384	40%
	Suburban and rural areas	17,340	47%	44,012	46%	100,174	60%
	Twin Cities region	36,716	-	95,902	-	167,558	-
Asian, non-Latino	Minneapolis and Saint Paul	34,043	54%	59,031	49%	64,181	35%
	Suburban and rural areas	29,165	46%	62,394	51%	119,406	65%
	Twin Cities region	63,208	-	121,425	-	183,587	-
Native American, non-Latino	Minneapolis and Saint Paul	15,171	69%	10,495	56%	8,667	50%
	Suburban and rural areas	6,957	31%	8,097	44%	8,785	50%
	Twin Cities region	22,128	-	18,592	-	17,452	-
A race not listed above or multiracial, non-Latino	Minneapolis and Saint Paul	1,130	57%	24,591	45%	23,736	32%
	Suburban and rural areas	857	43%	29,807	55%	49,682	68%
	Twin Cities region	1,987	-	54,398	-	73,418	-
All people of color	Minneapolis and Saint Paul	136,459	64%	246,791	56%	277,559	41%
	Suburban and rural areas	75,324	36%	197,639	44%	398,790	59%
	Twin Cities region	211,783	-	444,430	-	676,349	-
Total Population	Minneapolis and Saint Paul	640,618	28%	669,769	25%	667,646	23%
	Suburban and rural areas	1,648,103	72%	1,972,287	75%	2,181,921	77%
	Twin Cities region	2,288,721	-	2,642,056	-	2,849,566	-

Source: U.S. Census Bureau, Decennial Census, 1990, 2000, and 2010.

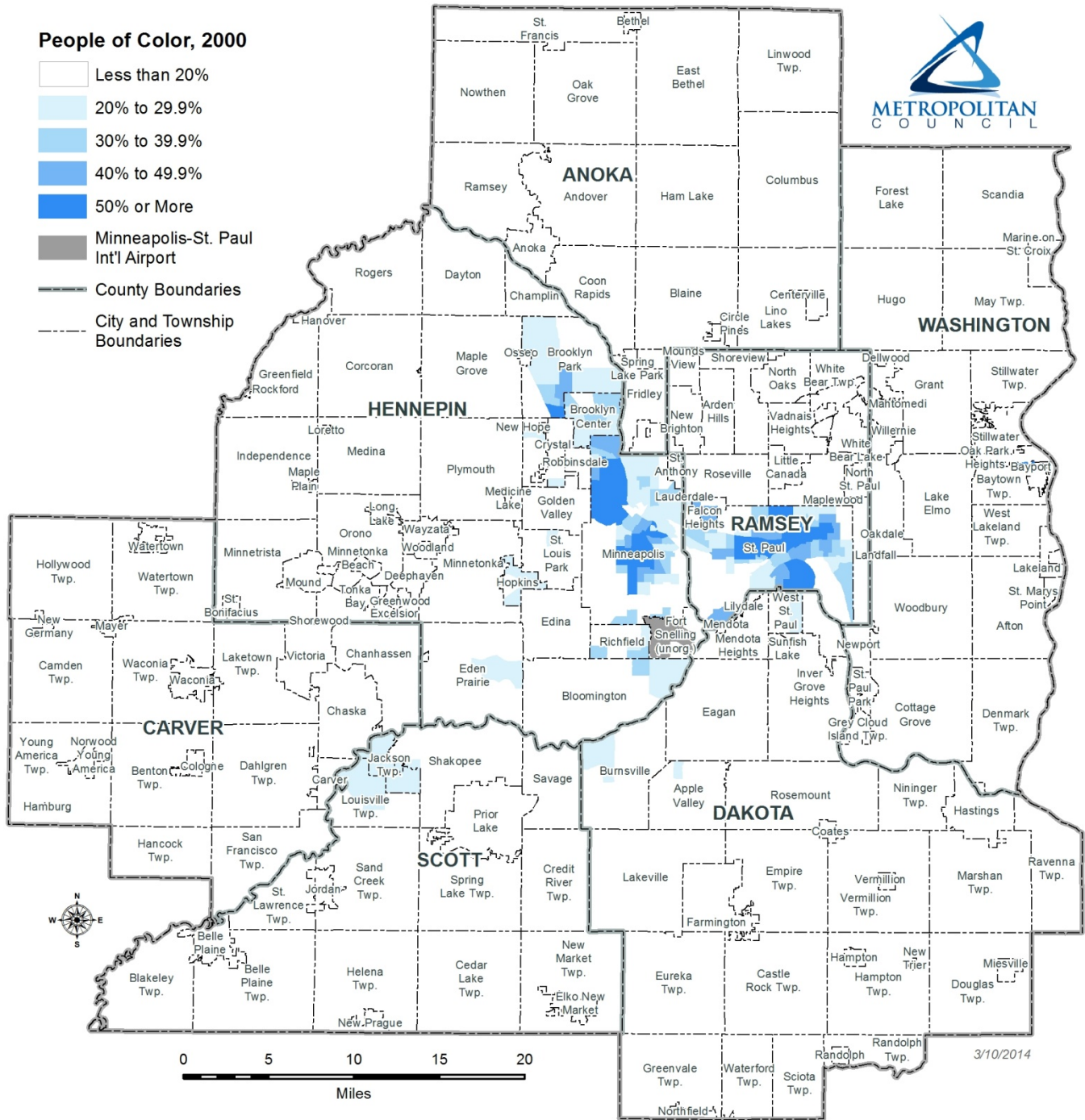
Maps 3.A, 3.B and 3.C show that many communities that were historically white became more racially diverse. They also demonstrate, however, that people of color are becoming more concentrated even as the region is becoming more diverse. These maps illustrate the increase in the number of census tracts where more than half of the residents are people of color: 33 in 1990 (all within Minneapolis and Saint Paul), 66 in 2000 (3 in suburban areas), and 97 in 2010 (20 outside of Minneapolis and Saint Paul). The change in the number and location of census blocks where people of color are a majority is also striking. In 1990, there were 934 such blocks (3% of all populated blocks), of which 59 (6%) were in suburban and rural areas. By 2010, there were 4,313 blocks (11% of all populated blocks), of which 1,727 (40%) were in suburban and rural areas.

Map 3.A Percentage of persons of color by census tract, 1990



Source: U.S. Census Bureau, Decennial Census, 1990.

Map 3.B Percentage of persons of color by census tract, 2000



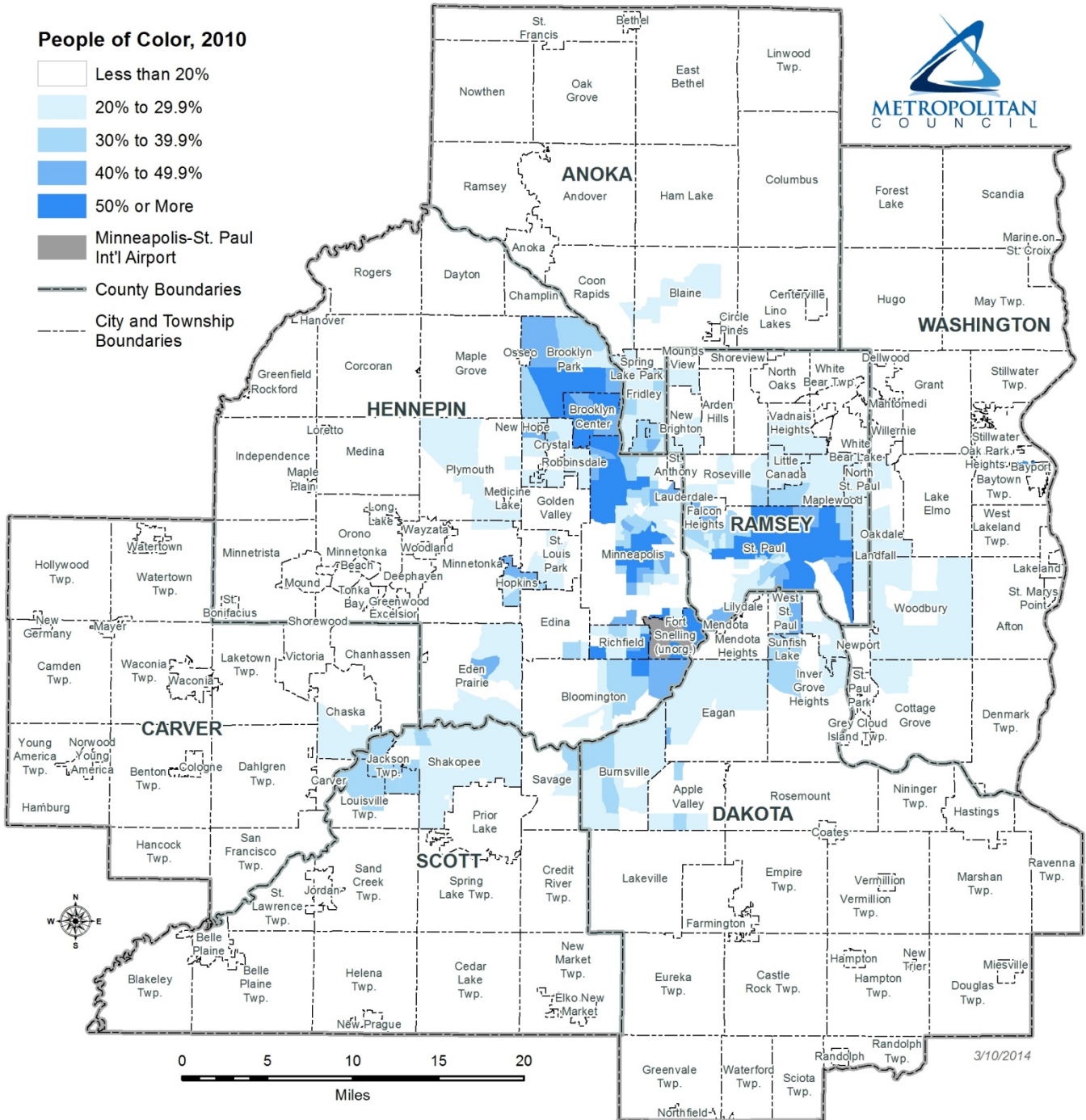
Source: U.S. Census Bureau, Decennial Census, 2000.

Map 3.C Percentage of persons of color by census tract, 2010



People of Color, 2010

- Less than 20%
- 20% to 29.9%
- 30% to 39.9%
- 40% to 49.9%
- 50% or More
- Minneapolis-St. Paul Int'l Airport
- County Boundaries
- City and Township Boundaries



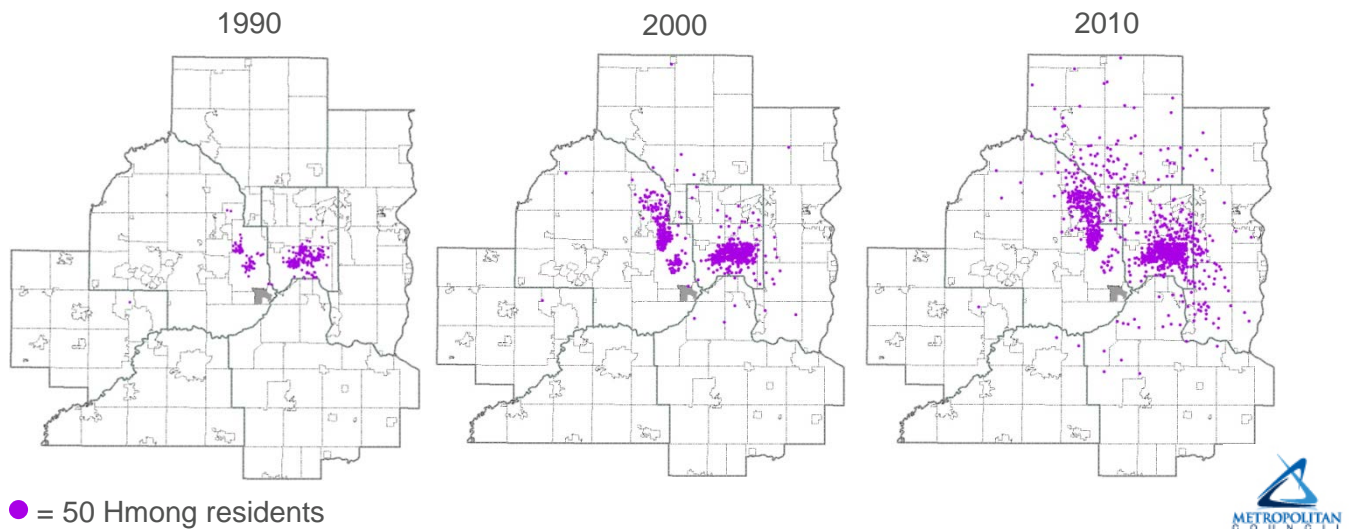
Source: U.S. Census Bureau, Decennial Census, 2010.

While this report refers to people of color in general in its analysis of racial and ethnic trends, it is important to note that people of color are far from being a monolithic entity. Even referring to more detailed categories such as “black” does not do justice to the complicated nature of these racial and ethnic categories. For instance, black residents of the region include not only African Americans but also African immigrants. Similarly, African immigrants as a group are not homogenous. Members of this group include Somalis, Ethiopians, Liberians as well as immigrants from many other African countries. The challenges that people of color face in the region vary significantly depending on the specific histories of individual racial and ethnic groups, and depending on whether they are native-born, immigrants of choice, or political refugees.

Immigration trends

Immigration, a key driver of the region’s growing racial and ethnic diversity, has changed the composition of people of color in the Twin Cities. Despite being one of the least diverse regions in the nation, the region has nevertheless been home to many different groups of immigrants as well as political refugees. Immigrants who arrive in the region not speaking English may face additional challenges and may be more likely at first to live among others who speak their home language. However, as the maps below show, the longer that immigrant populations live in the region, the more dispersed their residential patterns. Among political refugees arrived in the region in the mid-1970s, and the region’s Hmong community expanded with new waves of refugee settlement. As of 2010, the state of Minnesota, home to one-quarter of the nation’s Hmong population, had the nation’s second-largest Hmong population. In fact, the 13-county metro region had the largest Hmong community among the nation’s metro areas in 2010. Map 3.D shows the settlement patterns of the region’s Hmong residents from 1990 to 2010.

Map 3.D Number of Hmong residents in the Twin Cities region in 1990, 2000 and 2010



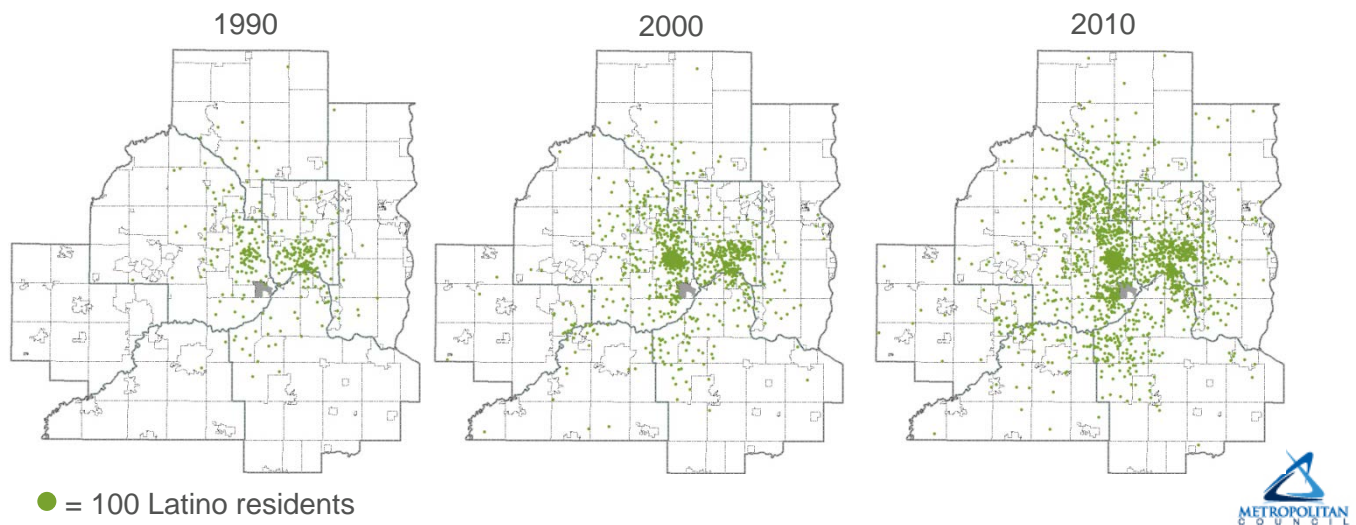
Source: U.S. Census Bureau, Decennial Census, 1990, 2000 and 2010.

In 1990, 95% of the region’s 16,000 Hmong residents lived in the cities of Minneapolis and Saint Paul. The second wave of Hmong refugees and natural population growth brought up the number of Hmong residents to 40,000 in 2000. By 2010, the Hmong population reached 63,000. At that time, only 59% of the region’s Hmong residents lived in Minneapolis and Saint Paul, down from 84% in 2000. Map 3.D demonstrates the movement of the Hmong population outward from their original settlements in

Minneapolis and Saint Paul into suburban locations, a pattern seen in other immigrant populations as well.

The rapid and steady growth of Latino immigrants is another trend that changed the racial and ethnic makeup of the region. Between 1990 and 2000, the share of Latinos among the region's residents of color increased from 17% to 22%. In 2010, 25% of the region's residents of color were Latino. Map 3.E, illustrates the rapid expansion of the Latino population in Minneapolis and Saint Paul as well as the growing presence of Latino residents in the region's suburbs. Only 40% of the region's Latino residents lived in Minneapolis and Saint Paul in 2010, compared to 53% in 1990 and 54% in 2000.

Map 3.E Number of Latino residents in the Twin Cities region in 1990, 2000 and 2010



Source: U.S. Census Bureau, Decennial Census, 1990, 2000 and 2010.

Political refugees, especially from Somalia, Ethiopia and Liberia, have also changed the racial and ethnic makeup of the region. The Somali refugee population started growing in the mid-1990s and reached around 9,500 in 2000. According to calculations from census data, the region had about 29,000 Somali residents in 2007-2011.ⁱⁱ In 2000, about 90% of Somali residents lived in Minneapolis and Saint Paul, compared with about 60% in 2011. The region's Ethiopian and Liberian populations grew in the 2000s; the Ethiopian population reached 16,000, and the Liberian population reached 14,500 in the 2007-2011 period. Unlike Somali residents, who reside primarily in Minneapolis and Saint Paul, Liberian immigrants settled in suburbs such as Brooklyn Center and Brooklyn Park. About 80% of the region's Liberian residents lived outside Minneapolis and Saint Paul in the 2007-2011 period, up from about 50% in 1990. In comparison, the share of the region's Ethiopian residents living in suburban areas increased from about 30% in 1990 to about 44% in 2011.

ⁱⁱ Unlike "Hmong" or "Latino," none of these three groups are classified as a distinct race or ethnicity by the U.S. Census Bureau. Obtaining estimates of their populations is therefore difficult. The figures in this paragraph were calculated from birthplace and ancestry information available in the Public Use Microdata Sample files for 1990, 2000, and 2007-2011. For example, people were classified as "Somali" if they reported having been born in Somalia or reported Somali ancestry. Because respondents must write in their ancestry on the census form rather than selecting it from a list of choices, actual Somali, Ethiopian and Liberian ancestry is almost certainly underreported in census data. Consequently, the numbers of Somali, Ethiopian and Liberian residents reported here are likely lower than the true numbers, particularly for members of these groups who were born in America (and would be identifiable only through their reported ancestry). Different response rates among members of these groups would also affect the estimates reported here.

Measures of residential segregation

In addition to growing racial and ethnic diversity, increasing racial and ethnic concentration plays a key role in shaping the racial dynamics of the region. Three measures of residential segregation tell this story in more detail. “Residential segregation” in this context refers to a pattern in which people of different racial and ethnic groups tend to live in different neighborhoods. The segregation indices describe the extent and magnitude of that pattern, but they do not point to any reason that the pattern exists.ⁱⁱⁱ

The three measures of residential segregation used to describe this story are:

- The **dissimilarity index** measures how evenly two groups are distributed in the region. It ranges from 0 (complete evenness, where the composition of each neighborhood mirrors the composition of the region) to 1 (complete unevenness, where no member of one group shares a neighborhood with a member of the other racial group). Higher values of the dissimilarity index represent greater residential segregation—as a rule of thumb, an index value of 0.55 or above indicates high levels of segregation. Values ranging from 0.40 to 0.54 imply moderate levels of residential segregation. Index values below 0.40 indicate low levels of residential segregation.
- The **isolation index** measures the extent to which members of one racial or ethnic group live in the same neighborhoods as other residents of the same group. The isolation index for white residents, for example, can be interpreted as the proportion of white people in the neighborhood of the average white person. The minimum possible value is close to 0 (in which case no neighborhood contains more than one member of the group), and the maximum possible value is 1 (in which case no member of the group shares a neighborhood with another racial or ethnic group). Higher values of the isolation index thus represent greater residential segregation. For example, if the value of the isolation index for white residents is 0.55, that means that the average white resident lives in a neighborhood where 55% of the residents are white.
- The **exposure index** measures the extent to which members of one racial or ethnic group are present in the neighborhoods of members of another racial or ethnic group. For example, the exposure of white residents to black residents represents the proportion of black residents in a typical white resident’s neighborhood. The exposure of Group 1 to Group 2 has a minimum value of 0 (in which case no members of Group 1 live in a neighborhood with Group 2) and a maximum value of the regional proportion of Group 2 (in which case every member of Group 1 lives in a neighborhood with the same proportion of Group 2 that exists in the region). Higher values of the exposure index represent less segregation. For example, if the index value measuring the exposure of Latino residents to black residents is 0.25, that means that the average Latino lives in a neighborhood where 25% of the residents are black.

These three indices tell different parts of the story. The dissimilarity index portrays a general picture of the residential segregation of two groups, but it does not reveal anything about the actual local context experienced by these two groups. For example, white and Latino residents could be distributed evenly across the region, but if Latino residents are a very small proportion of the region’s population, then white residents would still not live around many Latinos. The isolation and exposure indices provide a better picture of the average local context for each group in the region.

ⁱⁱⁱ Section Four discusses various explanations for the pattern, including socioeconomic differences across racial and ethnic groups; race-based residential preferences; the legacy of federal housing policy; and ongoing actions by political, economic, and other actors.

Together, these three indices piece together the story of a new type of residential segregation emerging in the Twin Cities region.^{iv} While the dissimilarity index reveals a general decline in residential segregation across nearly all racial and ethnic groups between 1990 and 2010, the isolation and exposure indices show that this pattern is driven chiefly by the relatively small increases in the proportion of people of color in the average white resident's neighborhood. The neighborhood of an average person of color, in contrast, actually has a lower proportion of white people now than it did in 1990.

The dissimilarity index

The dissimilarity index reveals a general decline in residential segregation. The index values decreased for almost all combinations of racial and ethnic groups between 1990 and 2010. For example, the dissimilarity index value for white residents and all residents of color was 0.38 in 2010, a decline from 0.46 in 1990 and 0.45 in 2000 (Figure 3.3).^v Studies show similar declines in the dissimilarity indices of many metropolitan areas.¹

However, different groups experienced varying levels of residential segregation. For instance, the dissimilarity index for white and black residents was 0.50 in 2010, while Latino and Asian residents experienced lower levels of segregation from white residents (0.42 and 0.40, respectively).

The dissimilarity index is useful for measuring segregation in large geographies and is often used for comparing segregation levels across metropolitan areas. However, the index is less effective in capturing the nuanced racial dynamics taking place within metropolitan areas. Instead, two other measures of residential segregation—the isolation and exposure indices—capture these dynamics more precisely, and they tell a different story.

^{iv} Metropolitan Council staff calculated these three measures for pairwise combinations of seven groups: White, non-Latino; black, non-Latino; Latino; Asian, non-Latino; Native American, non-Latino; some other race or more than one race, non-Latino; and all people of color. The measures cover the Twin Cities region in 1990, 2000 and 2010 and use census tracts to represent neighborhoods. For more detail on the calculation of these measures, see Appendix C.

^v The exceptions to this general decline were the index value for Latino and white residents and the index value for Latino and Asian residents.

3.3 Dissimilarity index by race and ethnicity in the Twin Cities region in 1990, 2000 and 2010

	White, non-Latino	Black, non-Latino	Latino	Asian, non-Latino	Native American, non-Latino	A race not listed above or multiracial, non-Latino	All people of color	Year
White, non-Latino		↓ 0.61	↑ 0.35	↓ 0.40	↓ 0.52	↓ 0.48	↓ 0.46	1990
		↓ 0.58	↑ 0.46	↓ 0.43	↓ 0.47	↓ 0.33	↓ 0.45	2000
		↓ 0.50	↑ 0.42	↓ 0.40	↓ 0.44	↓ 0.24	↓ 0.38	2010
Black, non-Latino			↓ 0.48	↓ 0.46	↓ 0.44	↓ 0.42		1990
			↓ 0.38	↓ 0.39	↓ 0.40	↓ 0.31		2000
			↓ 0.33	↓ 0.38	↓ 0.37	↓ 0.31		2010
Latino				↑ 0.34	↓ 0.40	↓ 0.42		1990
				↑ 0.39	↓ 0.31	↓ 0.28		2000
				↑ 0.39	↓ 0.31	↓ 0.27		2010
Asian, non-Latino					↓ 0.49	↓ 0.45		1990
					↓ 0.45	↓ 0.28		2000
					↓ 0.45	↓ 0.30		2010
Native American, non-Latino						↓ 0.44		1990
						↓ 0.28		2000
						↓ 0.31		2010
A race not listed above or multiracial, non-Latino								1990
								2000
								2010
All people of color								1990
								2000
								2010

↓ Indicates a *decrease* in residential segregation of the row group to column group over time.

↑ Indicates an *increase* in residential segregation of the row group to the column group over time.

Source: Metropolitan Council staff calculations based on U.S. Census Bureau, Decennial Census, 1990, 2000 and 2010.

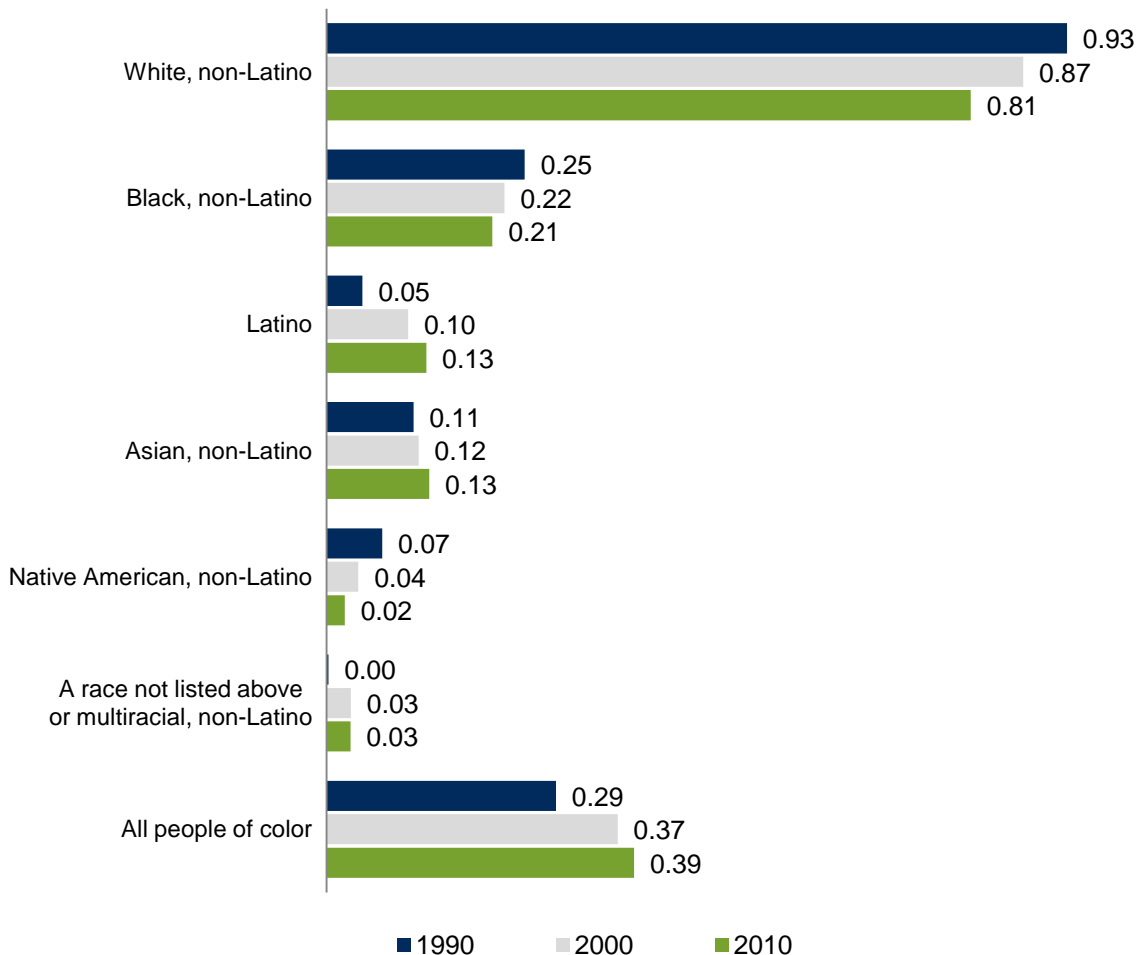
Note: Cell entries show the value of the dissimilarity index calculated for the row group and the column group. For example, the values in the white, non-Latino row and the black, non-Latino column show that the dissimilarity indices for white, non-Latino residents and black, non-Latino residents were 0.61 in 1990, 0.58 in 2000 and 0.50 in 2010. The dissimilarity index is symmetrical so the values in the black, non-Latino row and the white, non-Latino column would be identical.

The isolation index

As Figure 3.4 shows, the isolation index values for white residents far exceed the values for any other racial or ethnic group. Despite a decline in white isolation over the past two decades, the local context for white residents is overwhelmingly white on average.

The isolation of people of color, however, has increased from 0.29 in 1990 and 0.37 in 2000 to 0.39 in 2010. That is, the neighborhood in which the average person of color lives includes an increasing proportion of other people of color. As with the dissimilarity index, the isolation index varies by race and ethnicity. While the isolation of black and Native American residents declined slightly, Latino and Asian residents experienced higher levels of isolation between 1990 and 2010 (Figure 3.4). The growing isolation of Latino and Asian residents is especially noteworthy considering that Latinos and Asians were the region’s fastest-growing racial and ethnic groups during the 1990s and 2000s.

3.4 Isolation index by race and ethnicity in the Twin Cities region in 1990, 2000 and 2010



Source: Metropolitan Council staff calculations based on U.S. Census Bureau, Decennial Census, 1990, 2000 and 2010.

The exposure index

Exposure indices, which show the average neighborhood for members of each racial and ethnic group, provide another picture of the region's racial and ethnic dynamics.

The average neighborhood of members of all racial and ethnic groups became less white between 1990 and 2010 (first column of Figure 3.5) but more populated by members of other racial and ethnic groups (the interior cells of Figure 3.5). For instance, the exposure of black residents to Latino and Asian residents as well as the exposure of Latino residents to black and Asian residents increased from 1990 to 2010. Similarly, the exposure of Asian residents to black and Latino residents increased during the same period. Meanwhile, the proportion of people of color in the census tract of the average white resident increased from 0.07 in 1990 to 0.19 in 2010. That is, the neighborhood in which the average white resident lives was more diverse in 2010 than it was in 1990.

3.5 Exposure indices between race and ethnic groups in the Twin Cities region in 1990, 2000 and 2010

To column group...

	White, non-Latino	Black, non-Latino	Hispanic or Latino	Asian or Pacific Islander, non-Latino	Native American, non-Latino	A race not listed above or multiracial, non-Latino	All people of color	Year	
Exposure of row group...	White, non-Latino	↑ 0.03	↑ 0.01	↑ 0.02	0.01	↑ 0.00	↑ 0.07	1990	
		0.04	0.03	0.04	0.01	0.02	0.13	2000	
		0.06	0.05	0.05	0.01	0.02	0.19	2010	
	Black, non-Latino	↓ 0.63		↑ 0.03	↑ 0.07	↓ 0.03	↑ 0.00		1990
		0.56		0.07	0.09	0.02	0.04		2000
		0.56		0.09	0.10	↓ 0.01	↓ 0.03		2010
	Hispanic or Latino	↓ 0.82	↑ 0.06		↓ 0.05	0.02	↑ 0.00		1990
0.66		0.11		0.07	↓ 0.02	0.03		2000	
0.63		0.13		0.08	↓ 0.01	0.03		2010	
Asian or Pacific Islander, non-Latino	↓ 0.75	↑ 0.09	↑ 0.03		↓ 0.02	↑ 0.00		1990	
	0.67	0.12	0.06		0.01	0.03		2000	
	0.64	0.12	0.07		0.01	0.03		2010	
Native American, non-Latino	↓ 0.74	↑ 0.11	↑ 0.03	↓ 0.04		↑ 0.00		1990	
	0.66	0.13	0.08	0.05		0.03		2000	
	0.63	0.14	0.11	0.07		0.03		2010	
A race not listed above or multiracial, non-Latino	↓ 0.80	0.11	↑ 0.02	↓ 0.05	↓ 0.02			1990	
	0.72	0.11	0.06	0.07	↓ 0.01			2000	
	0.70	0.11	0.07	0.08	0.01			2010	
All people of color	↓ 0.71							1990	
	0.63							2000	
	0.61							2010	

↓ Indicates exposure of the row group to column group *decreased* over time.

↑ Indicates exposure of the row group to the column group *increased* over time.

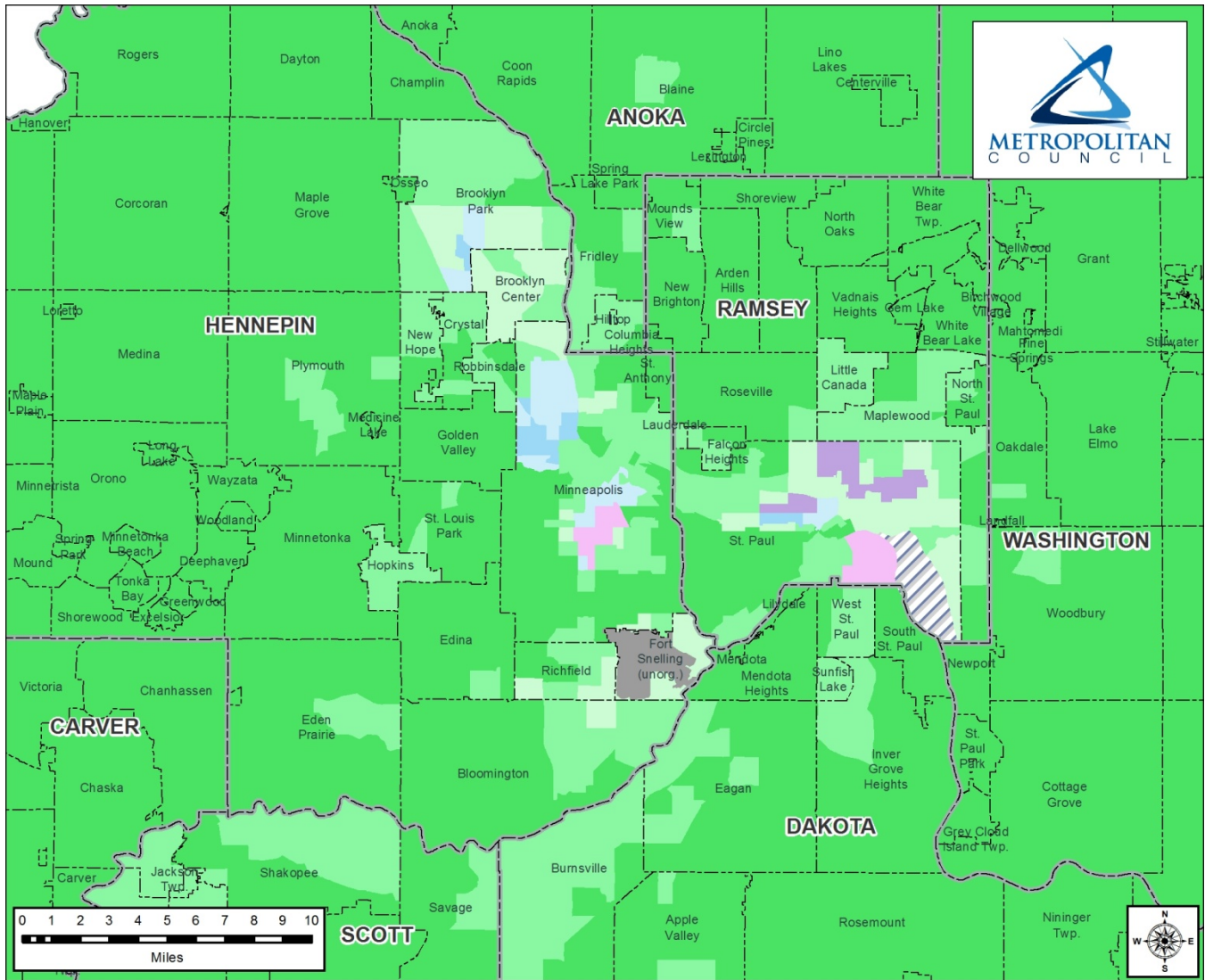
Source: Metropolitan Council staff calculations based on U.S. Census Bureau, Decennial Census, 1990, 2000 and 2010.

Note: Cell entries show the value of the index measuring the exposure of the row group to the column group. For example, the values in the white, non-Latino row and the black, non-Latino column shows that the proportion of black, non-Latino people in the census tract of the average white, non-Latino person was 0.03 in 1990, 0.04 in 2000, and 0.06 in 2010. The values in the black, non-Latino row and the white, non-Latino column show that the proportion of white, non-Latino people in the census tract of the average black, non-Latino person was 0.63 in 1990, 0.56 in 2000, and 0.56 in 2010.

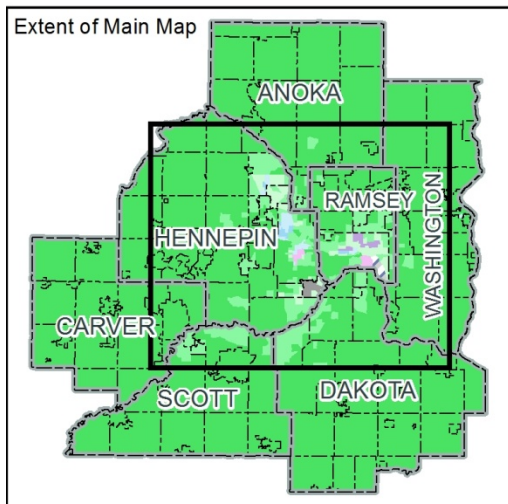
The analysis above shows that the downward trend in the dissimilarity index between white residents and people of color masks the contrasting experiences of white residents and residents of color revealed by the isolation and exposure indices. The average white person's neighborhood is now shared by relatively more black, Latino, Asian, Native American residents, and residents of other races than in 1990. The falling dissimilarity index values reflect this pattern. The neighborhood of the average person of color, however, is shared by relatively fewer white residents now compared to 1990.

Map 3.F presents the racial plurality of each census tract in the region. The map shows which racial or ethnic group has a majority—or plurality—within each tract (color) and the degree to which they are concentrated (gradient). In areas of Saint Paul where Asian residents are the most populous group and in South Minneapolis where many Latino residents live, each group is also very heavily concentrated, constituting 50% to 74.9% of the population. This confirms the high levels of isolation these communities face. In contrast, in North Minneapolis census tracts where black residents comprise the largest share of all residents, the gradient color is a lighter blue, indicating greater diversity within those areas. Meanwhile, the vast majority of tracts outside of Minneapolis and Saint Paul have white, non-Latinos as the primary residents, usually in the highest level of concentration (75% or more).

Map 3.F Racial plurality by census tract, 2010



3/10/2014



Prevailing Population by Percent



Source: U.S. Census Bureau, Decennial Census, 2010.

The analysis above shows the emergence of a new type of residential segregation, where people of color are exposed to different racial and ethnic groups but not to whites. This new type of segregation is not unique to the Twin Cities region and is surfacing across the nation even as the nation is becoming more racially diverse.² In combination with the poverty trends described in Section Two, the emergence of this new type of residential segregation augments existing racial and ethnic disparities. Section Four will discuss the dynamics of this process in detail.

¹ See, for instance, Edward Glaeser and Jacob Vigdor, "The End of the Segregated Century: Racial Separation in America's Neighborhoods, 1890-2010," Manhattan Institute for Policy Research Civic Report, no. 66, January 2012 and John R. Logan and Brian J. Stults, "The Persistence of Segregation in the Metropolis: New Findings from the 2010 Census," Census Brief prepared for the US2010 Project, March 2011.

² See John R. Logan and Charles Zhang, "Global Neighborhoods: New Pathways to Diversity and Separation," *American Journal of Sociology*, vol. 115, no. 4 (January 2010): 1069-1109. For a local study that confirms the presence of this new type of residential segregation in the Twin Cities region, see Myron Orfield and Thomas F. Luce, Jr., *Region: Planning the Future of Twin Cities* (Minneapolis: University of Minnesota Press, 2010), pp. 97 and 104.