

Remaking the Apartheid City*
Presentation of Data: Durban, 1996-2001
Draft, May 2007

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Project Description:

Post-apartheid South Africa represents the most ambitious and most challenging attempt at planned transformation ever undertaken in a democratic society. This research project addresses a central question: if the apartheid city was planned for segregation, can the post-apartheid city be planned for integration? This project will use state-of-the-art GIS techniques and spatial analysis methods in conjunction with extensive qualitative field research to examine integration and exclusion in South Africa's three megacities: Johannesburg, Cape Town, and Durban. The remaking of the apartheid city poses in stark form a central question of social change: can purposive public interventions reverse ingrained inequalities of the past? The project addresses this question by drawing on expertise from sociology, planning, geography, economics, environmental management and engineering.

Following the transition to democratic rule in 1994, the African National Congress (ANC) government set out to reverse the spatial legacies of planned apartheid cities. Over the past decade, the national ANC and municipal governments have implemented a range of policies designed to promote integrated development. The combination of high-capacity local governments and the political will to plan for integration provides what amounts to a natural experiment in social transformation. Careful evaluation will shed light not only on the transformation of the apartheid city, but more broadly on how determined states can transform social and physical environments. We propose to assess the extent to which planned infrastructural development has impacted the economic and racial profile of cities, and examine the degree to which macro mechanisms - globalization, elite power, governance regimes and historical legacies - act as countervailing forces to the remaking of the apartheid city.

The existing (mostly qualitative) literature and previous research by team members (Heller, 2003; Hindson and O'Leary, 2000; Pieterse, 2003) indicate that the post-apartheid city has experienced significant reconfiguration, but that the aggregate trend has been one of economic polarization. The overall picture is however highly uneven, marked by areas of dynamic integration as well as new pockets of exclusion. A fuller understanding of these complex phenomena calls for an interdisciplinary frame of analysis that combines concepts and techniques from the social, physical and spatial sciences.

This project examines the question of transformation as the encounter of market forces, social structures, political actors and institutional capacities of the state. We specifically draw from an emergent, interdisciplinary framework that calls for comparative, configurational and spatial frames of analysis (Evans, 2002; Hart, 2002; Heller, 2001). In this configurational approach, the state, market, politics and social structure are treated as inter-determined, marked by mutually reinforcing as well as contradictory logics, that can only be grasped through close examination of spatial interconnections. In the post-apartheid city it is possible to discern new forms of integration and new forms of exclusion that are intricately linked. The case of the post-apartheid city, with its stark inherited inequalities and its transformative commitments, provides a unique opportunity to explore the dynamics of transformation.

Project Update:

We are nearing the midpoint of this four year project. We have mostly completed data collection, and have made substantial progress on data analysis, in particular for Durban. We are beginning to disseminate results while replicating analyses for Cape Town and Johannesburg. The next two years will focus on further analysis and dissemination, including working with key informants in each city to understand the results and how they might inform planning and development processes.

Purpose of this Report:

This draft report displays data on changes to Durban during the post-apartheid period, using census data from 1996 and 2001 as well as a variety of data from city departments on housing, roads, public transportation, schools, health facilities, and libraries. These data were analyzed and organized in this report with the explicit purpose of eliciting reactions, feedback, and analysis from Durban based experts.

Acknowledgements:

Thanks to all in Durban who helped provide access to the data, and to those who will be involved in the process of analyzing the initial findings presented here. This report also builds on other analyses of Durban, and particularly on Doug Hindson and Brian O’Leary’s work examining residential change to Durban over time.

The data presented in this report are preliminary and intended only for those to whom the data is being presented.

Outline of the report:

1. Introduction: Aggregate Change Statistics
2. A Guide to Categories and Measures Used in this Report
3. Tables and Charts: Population Change
4. Maps: Apartheid Zoning; Black, Indian, and White Proportion Change
5. Maps: “Legacy” Communities; Areas of Desegregation, Resegregation, and Constant Mixing; Desegregation and Population Density
6. Table: Population Change by Race
 Legacy Communities and areas of Desegregation, Resegregation, and Constant Mixing
7. Map and Table: Dominant White to Majority White, Some Indian and Black
8. Map and Table: Dominant Indian to Majority Indian, Some Black
9. Tables: Community service and infrastructure characteristics, by type of change
10. Maps: Infrastructure Distribution
 - a. Libraries
 - b. Housing
 - c. Clinics
 - d. Public Transportation Access
 - e. Linkages to Racial Composition Change

Introduction: Aggregate Change Statistics

The index of dissimilarity is a commonly used measure of racial segregation. It ranges from 0 to 1, and is calculated for a pair of race groups. It can be interpreted as the percentage of either group that would need to move to different areas such that all communities would evenly reflect the citywide proportions of the pair.

Index of Dissimilarity, DMA

Dissimilarity	1996	2001
Black/White	0.93	0.91
Black/Indian	0.89	0.84
Indian/White	0.93	0.87

Across the full extent of the DMA, the index of dissimilarity is extremely high in 1996, and goes down slightly across all three pairs in 2001. However, much of this citywide measure is driven by black townships, where most of the black population lives, and where prospects of residential integration are extremely low.

How segregated are the parts of the city that are not black townships or black rural areas? Taking those communities out of the calculation, we are left with 226 communities, encompassing about half the population of Durban (see specific population totals on the next page), with the following levels of segregation:

Index of dissimilarity, DMA,
Excluding black townships and black rural areas.

Dissimilarity	1996	2001
Black/White	0.93	0.78
Black/Indian	0.95	0.68
Indian/White	0.92	0.86

Here we see much larger overall change, particularly in the black/white and black/Indian calculations. This change represents a huge decrease for a five year period. In international perspective, the figures for 2001 are much more in line with similarly sized cities around the globe, including American cities.

However, single figures for the whole of the city, or even parts of it, are limited in what they tell us. These statistics tell us that there has been significant changes in the pattern of residential segregation outside of townships, but tell us little about the actual patterns driving this change and the dynamics at work. The remainder of this report disaggregates the patterns at the community level, providing the data for a preliminary examination of how these patterns of racial residential change are tied to economic and infrastructural factors.

A Guide to Categories and Measures Used in this Report

Community Change Categories:

Legacy

Communities composed only (or almost entirely) of one race group in 1996 that remained the same in 2001.

Desegregated

Communities that from 1996 to 2001 experienced one or more of the following:

- 1) A new race group arrived that was not significantly present there previously
- 2) A shift from a race group over 50% of the population to no race group over 50%
- 3) A significant narrowing of the gap between proportions of two or more groups.

Resegregated

Communities that from 1996 to 2001 experienced the inverse of one or more of the three changes listed in the desegregation category.

Mixed Static

Communities that were mixed in any particular configuration of more than one race group in 1996, and remained in roughly that same configuration in 2001.

Race Group Representation Categories:

***“Dominant”* Representation**

A race group that is so high a proportion of a community that it is the only group with any real representation in that community. (We sometimes use the shorthand notation of a single capital letter to refer to a community of this type: W for white, B for black, I for Indian.)

***“Majority”* Representation**

A race group at or above 50% of the population of a community but below the point at which it becomes “dominant”. (Shorthand notation is a capital letter coupled with a lowercase letter representing “some”: biW would therefore mean “majority white, some black and Indian.”)

***“Some”* Representation**

A race group below 50 percent of the population, but not so low as to be unrepresented. (Shorthand notation is a lowercase letter together with other lower or upper case letter: biw would mean black, Indian, and white all represented but each below 50%.)

Statistical Measures:

Population Density

Number of people per square kilometer.

Highway Distance

Distance in meters between the center of a community and the nearest freeway or highway.

Income Rank

Rank of average household income of communities, from 1, the highest, to 406, the lowest. Rank is used rather than actual value because of comparability problems between census questions in 1996 and 2001.

Public Transportation Count

Number of public transportation routes that go through the community or housing project directly to the central city. Reported figures are weighted by population.

Informal Housing

Percentage of households that live in informal dwellings.

Unemployment

Number of unemployed but looking for work, divided by number of unemployed but looking for work plus number employed.

Clinic Density

Average number of fixed clinics within two kilometers of any given spot within a community.

Toilet Access

Percentage of households with in home flush or chemical toilets.

Water in Dwelling

Percent of households with water piped into the dwelling.

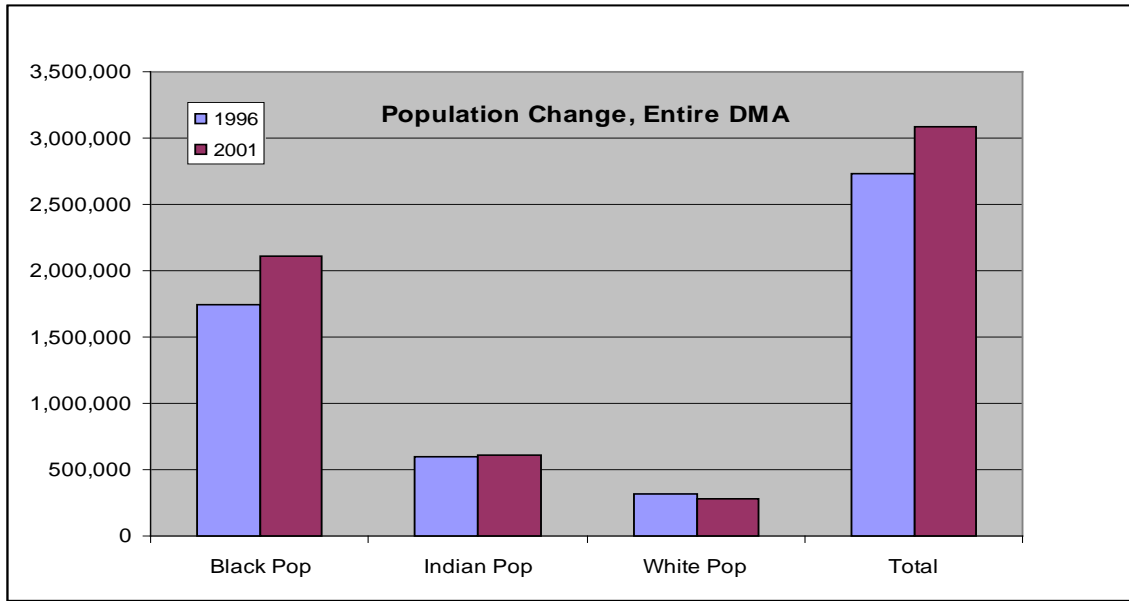
All reports of these statistics are weighted so that their values are not skewed disproportionately by the rural and sparsely populated areas of the Durban Metropolitan Area. Population density, highway distance, public transportation count, clinic density, and unemployment are weighted by population; income rank, toilet access and water in dwelling are weighted by number of households.

Finally, when examining maps, please take careful note of the legends, as we present data using symbols that are as consistent as possible but still sometimes differ across maps.

If you have further questions regarding any of the terms or maps in this report, please do not hesitate to contact us by email.

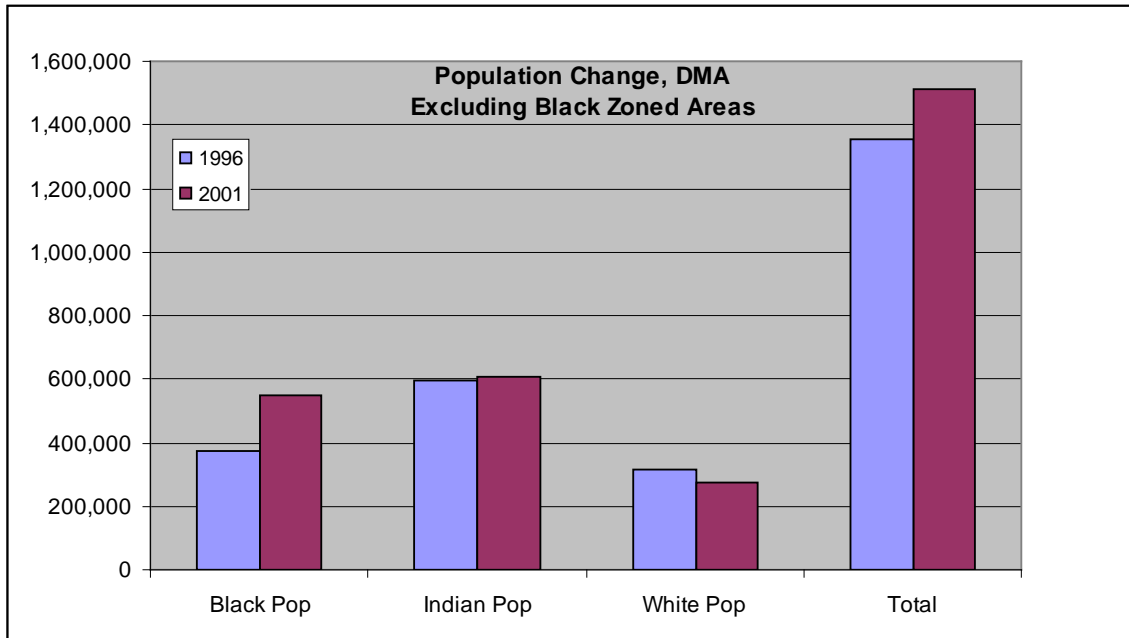
Population Change, entire DMA

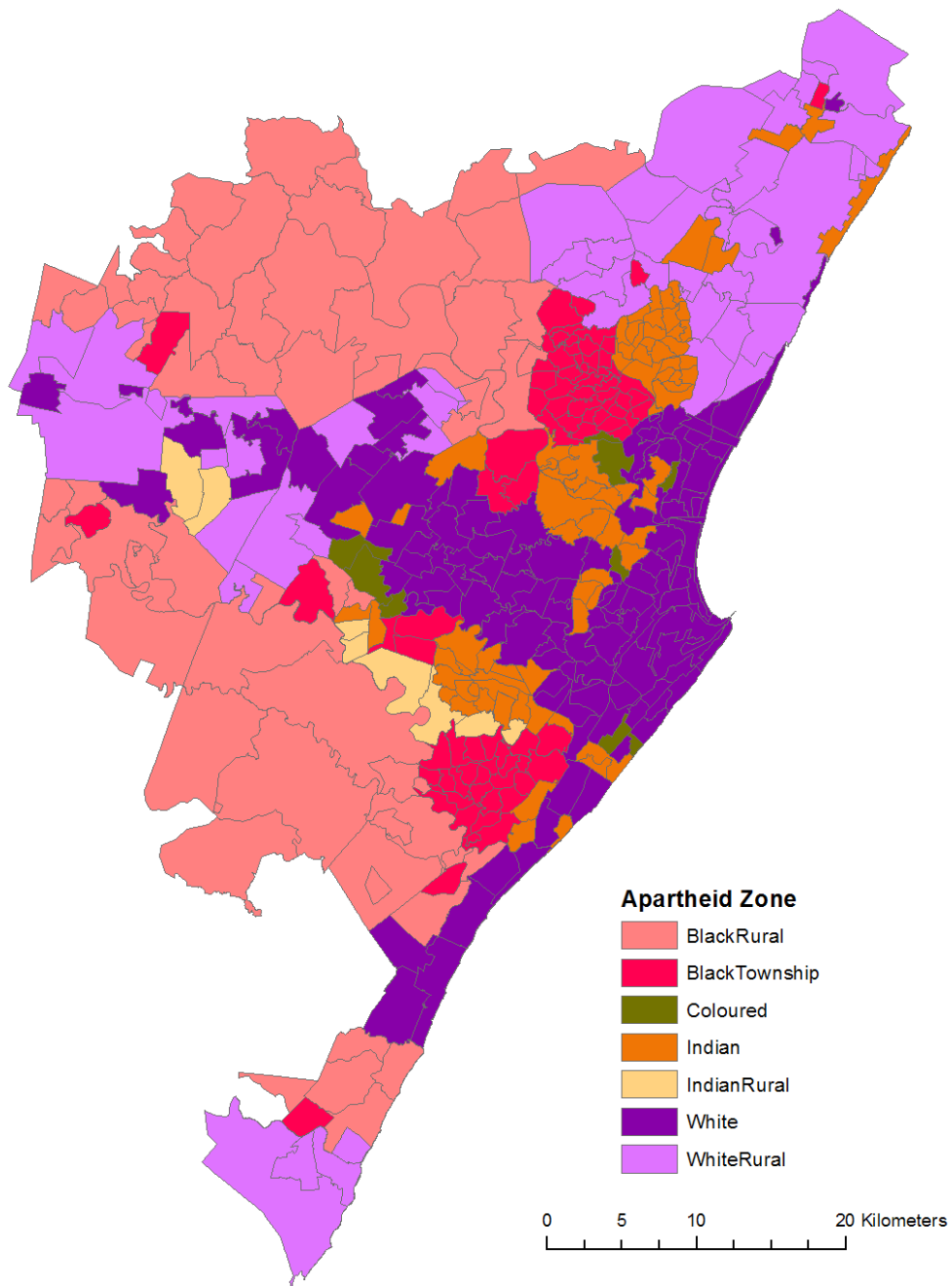
Year	Black Pop	Black %	Indian Pop	Indian %	White Pop	White%	Total
1996	1,738,988	64%	599,296	22%	316,281	12%	2,727,988
2001	2,107,599	68%	614,675	20%	277,479	9%	3,086,283

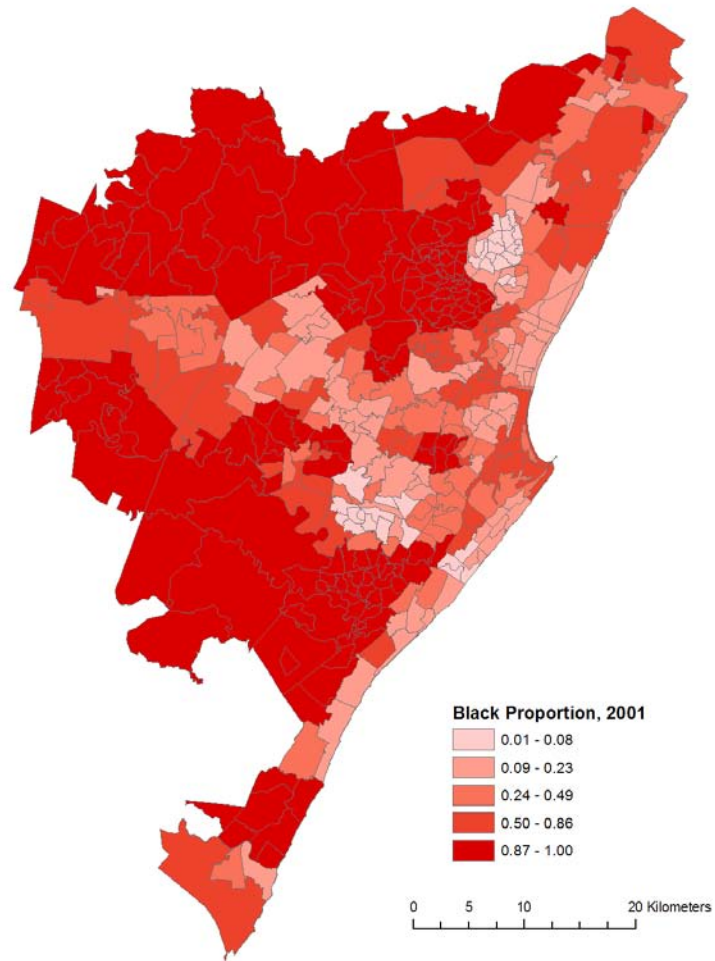
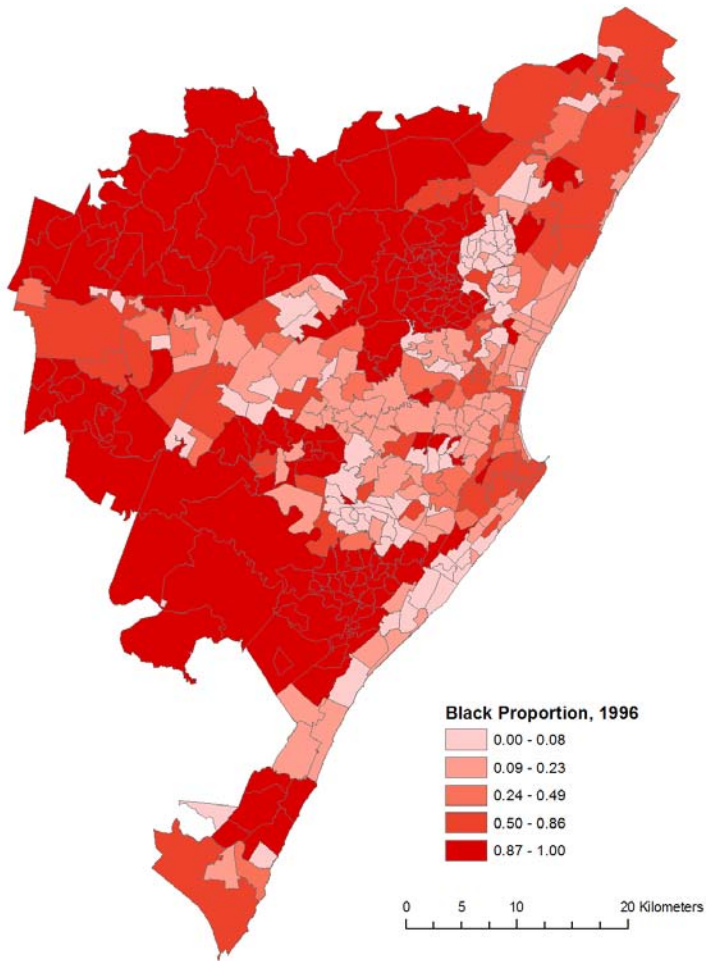


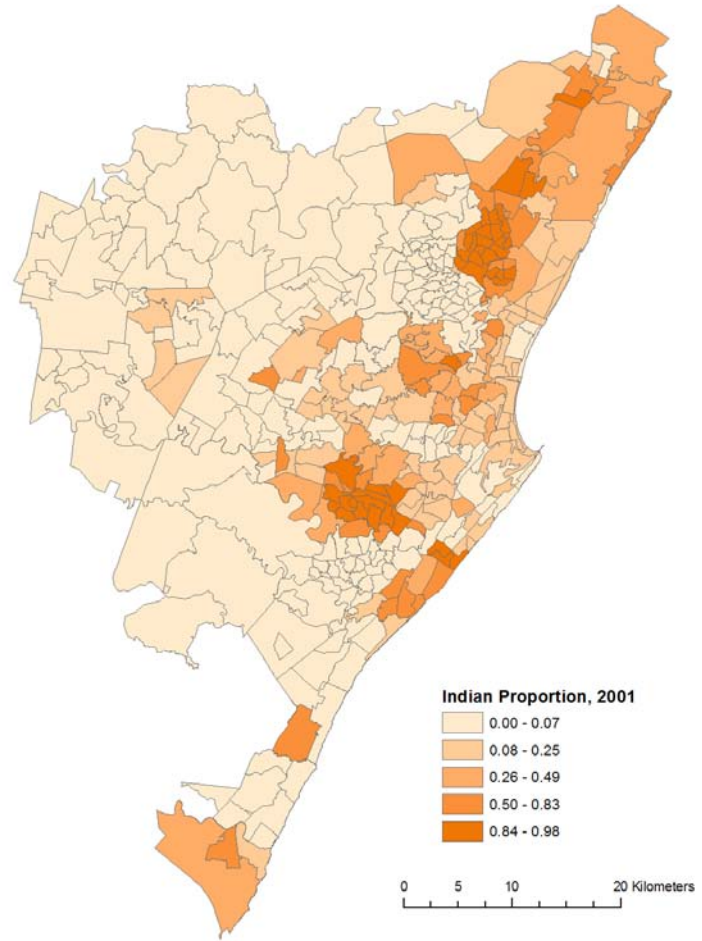
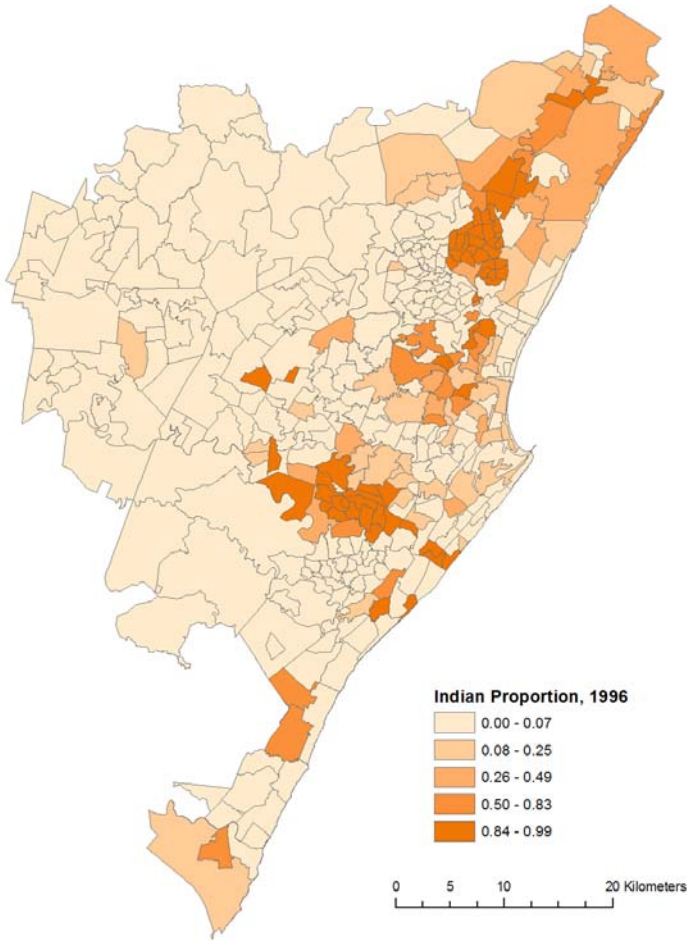
Population Change, DMA excluding black townships and black rural areas.

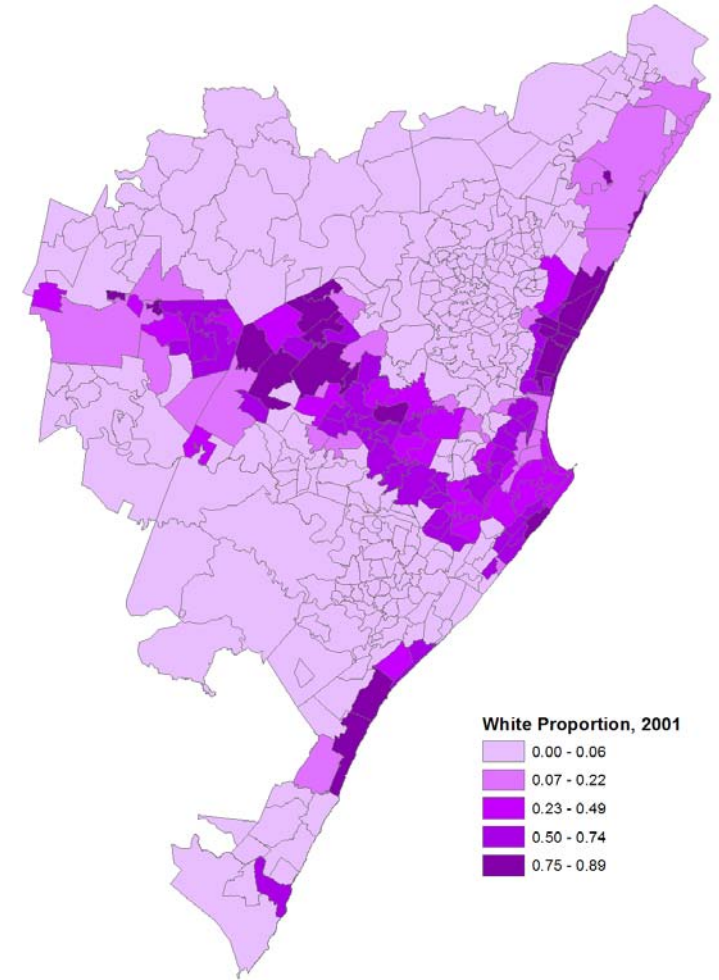
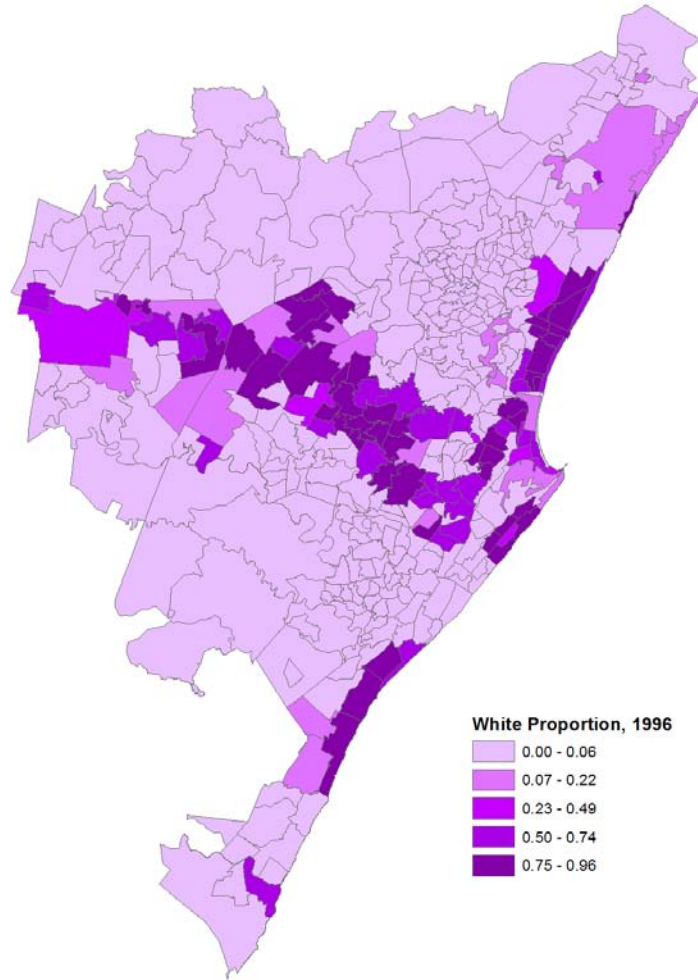
Year	Black Pop	Black %	Indian Pop	Indian %	White Pop	White %	Total
1996	371,144	27%	593,629	44%	315,800	23%	1,351,878
2001	546,943	36%	605,381	40%	275,989	18%	1,512,461

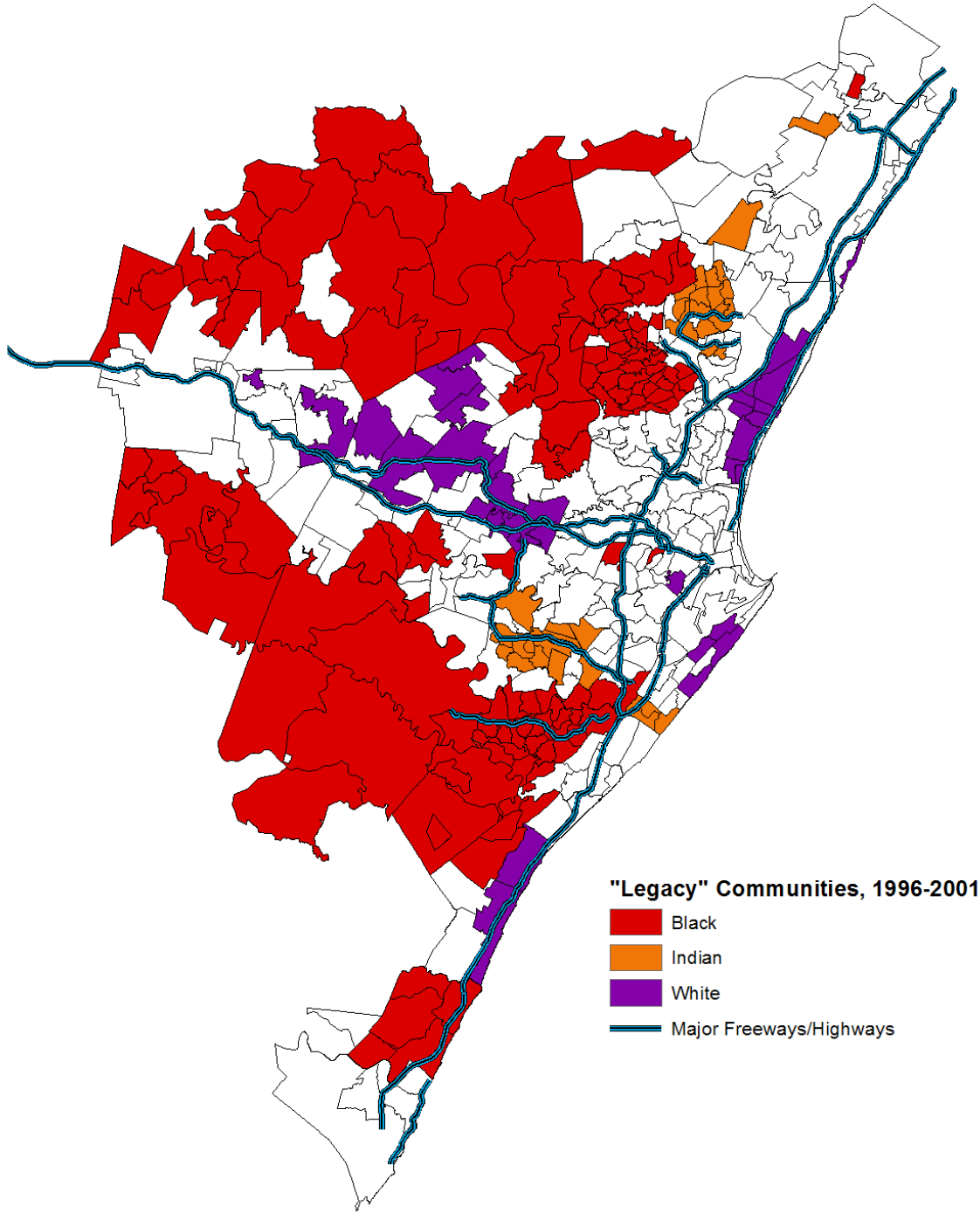


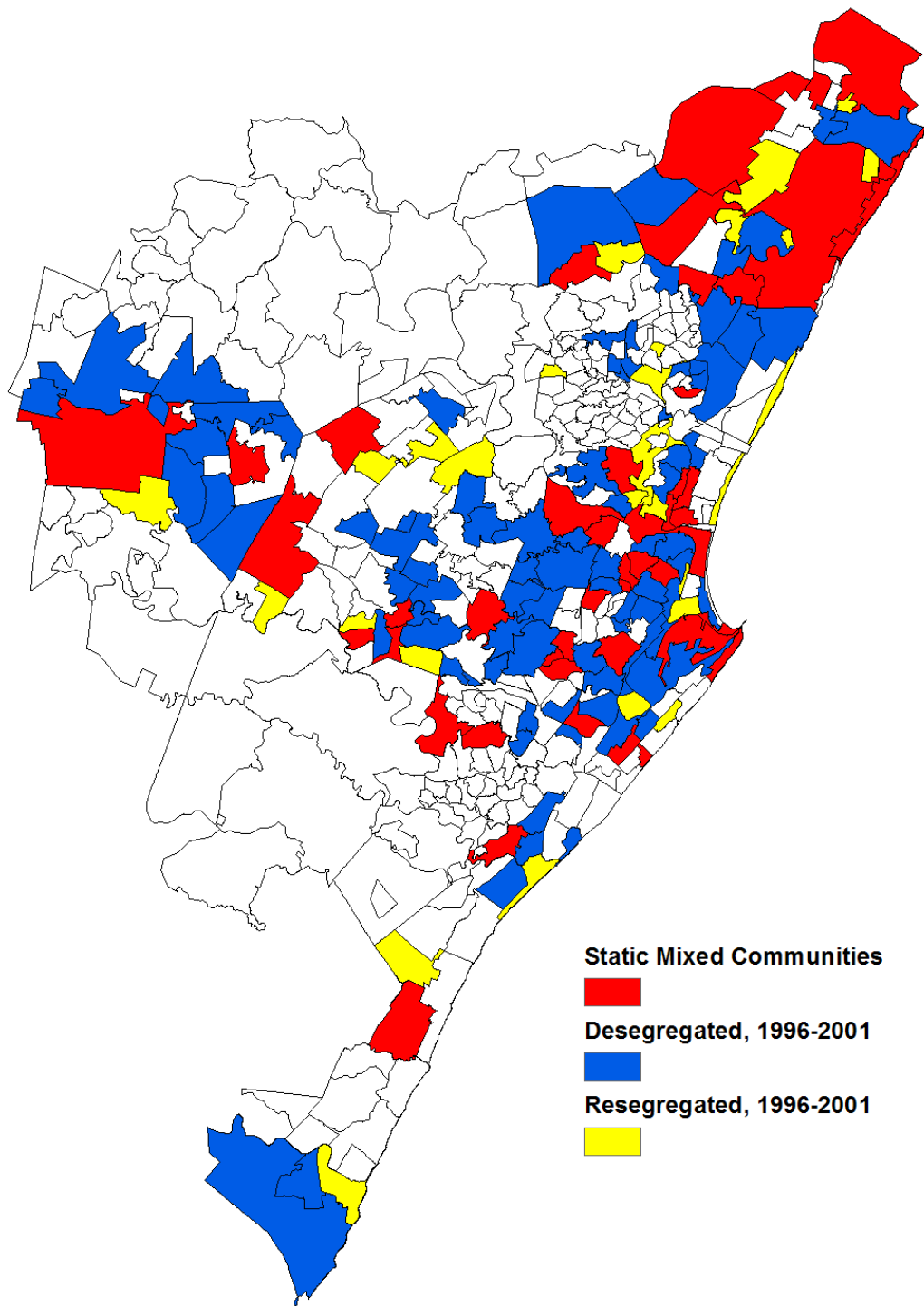






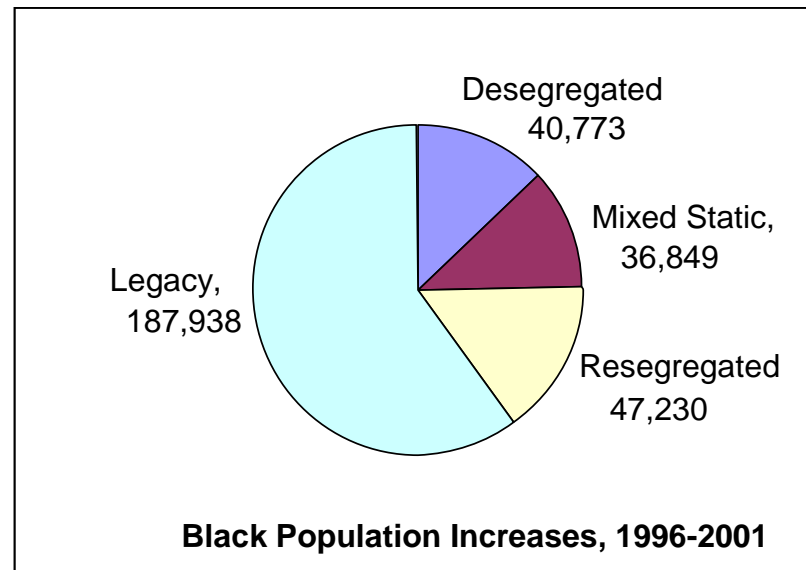


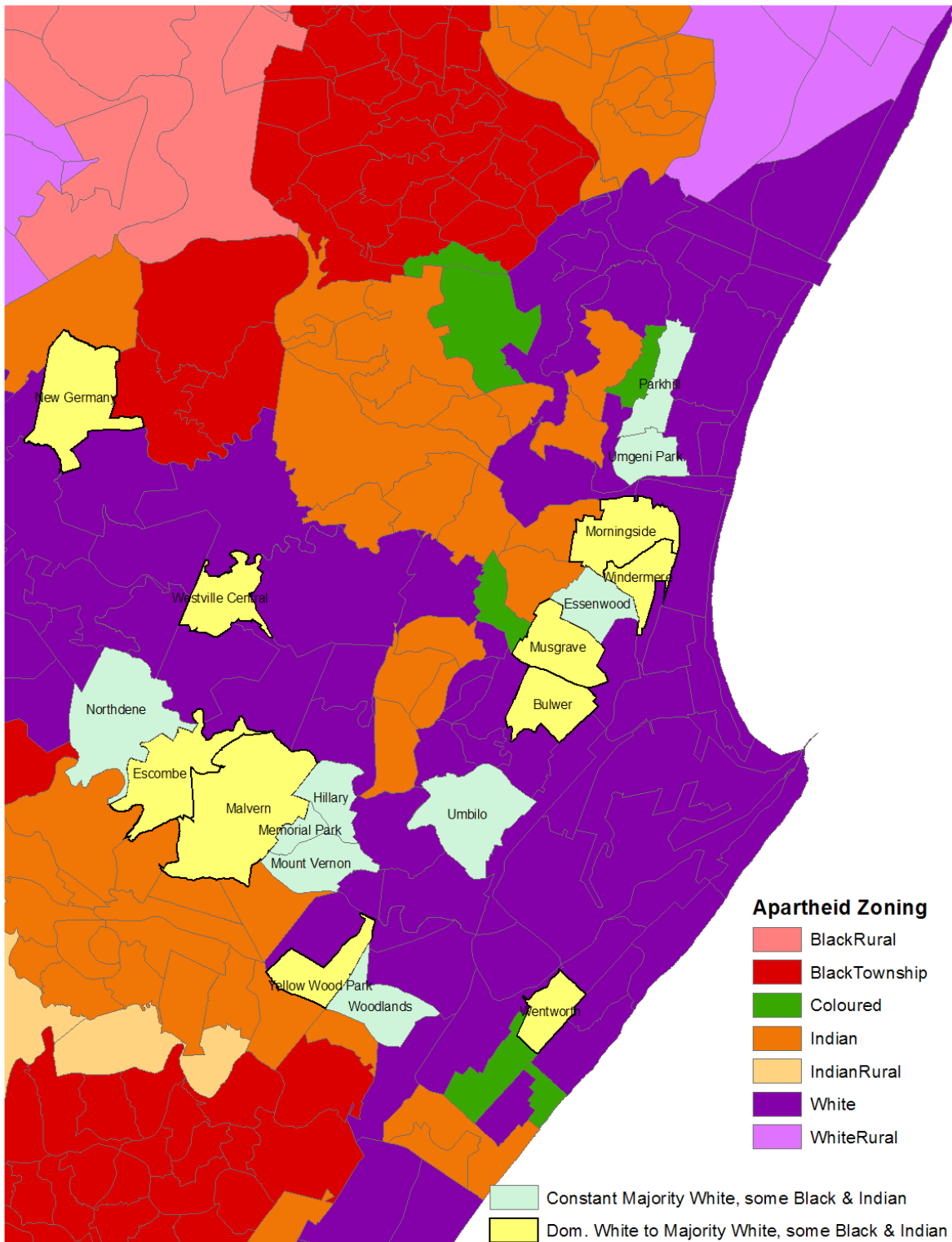




Type	No.	1996				2001			
		Total	Black	Indian	White	Total (change, 96-01)	Black (change)	Indian (change)	White (change)
Desegregated 1996-2001	87	485,981	167,070	185,507	124,662	500,975 (+3.1%)	207,843 (+24%)	179,773 (-3.1%)	97,955 (-21%)
Mixed Static	47	265,711	96,278	71,672	42,267	309,129 (+16%)	133,127 (+38%)	84,760 (+18%)	40,691 (-3.7%)
Resegregated 1996-2001	28	86,233	44,622	20,542	17,964	138,236 (+60%)	91,852 (+206%)	24,172 (+18%)	15,159 (-16%)
Legacy	210	1,875,620	1,424,956	314,004	130,900	2,045,133 (+9%)	1,612,894 (+13%)	304,811 (-2.9%)	117,663 (-10%)
Citywide	406	2,727,988	1,738,988	599,296	316,281	3,086,283 (+13%)	2,107,599 (+21%)	614,675 (+2.5%)	277,479 (-12%)

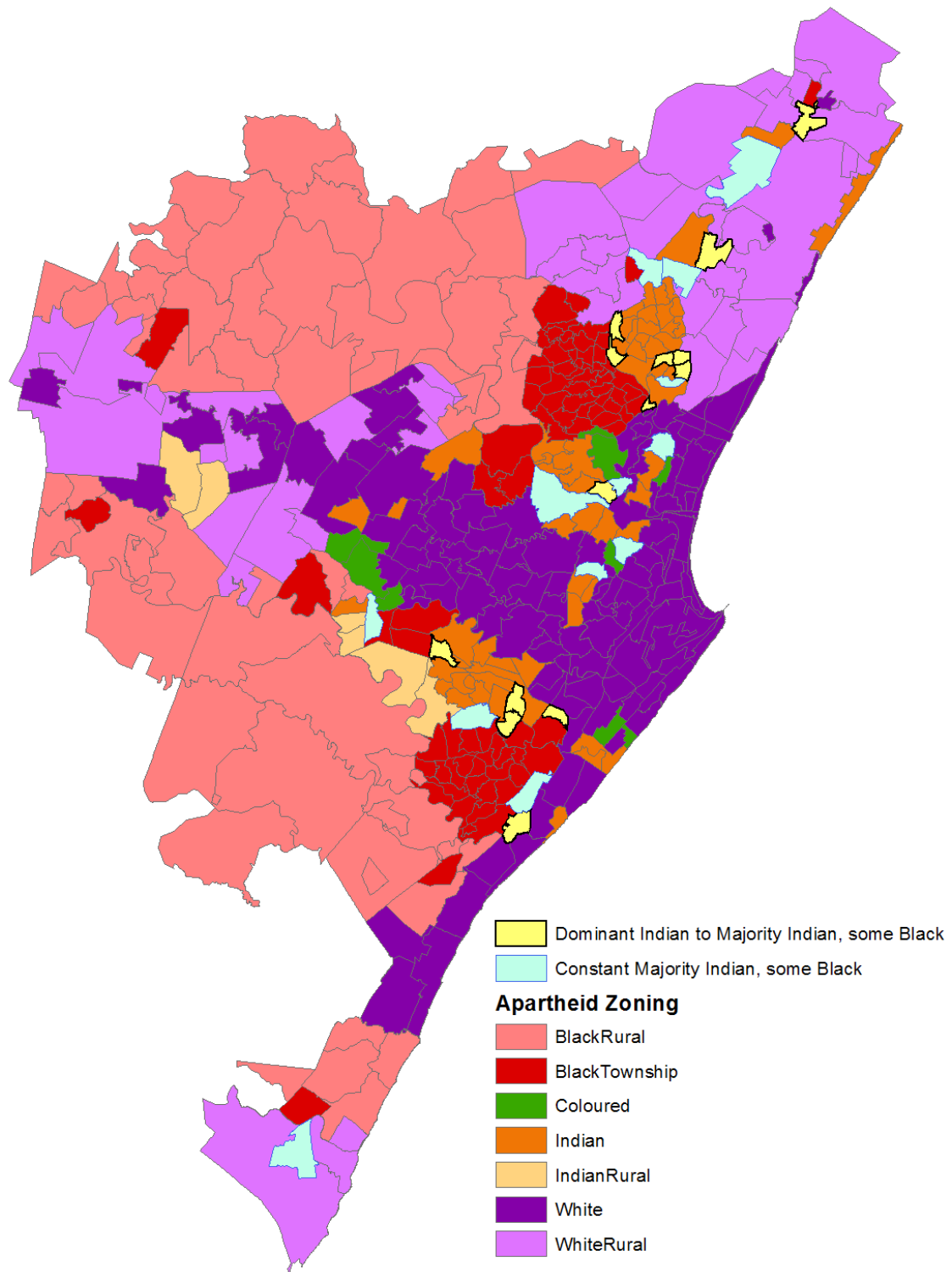
34 communities are not included: 28 Greenfields, and six that experienced change not reducible to desegregation or resegregation.





Dominant White to Majority White, Some Indian and Black (W to biW)		1996				2001			
Community	Apartheid Zone	Total Pop	Black	Indian	White	Total Pop	Black	Indian	White
Malvern	White	15088	9%	11%	79%	14311	11%	28%	58%
Bulwer	White	14721	17%	6%	75%	14018	29%	10%	57%
Morningside	White	10476	13%	10%	74%	12110	16%	26%	54%
Musgrave	White	13042	17%	6%	75%	11319	18%	17%	63%
New Germany	White	8713	17%	3%	79%	10959	37%	6%	56%
Escombe	White	6972	9%	13%	77%	8315	13%	27%	59%
Windermere	White	6786	12%	6%	80%	5239	20%	13%	63%
Yellow Wood Park	White	4549	14%	6%	80%	3678	26%	20%	52%
Westville Central	White	3450	15%	5%	79%	3211	27%	7%	65%
Wentworth	White	4216	11%	5%	78%	2870	19%	11%	61%
	Total Population	88013	11985	6721	67798	86030	18001	15357	50090
	Total Percentage		14%	8%	77%		21%	18%	58%

W to biW Continued		Population Change, 1996-2001			
Community	Apartheid Zone	Total Pop	Black	Indian	White
Malvern	White	-777	+216	+2,347	-3,619
Bulwer	White	-703	+1,563	+519	-3,050
Morningside	White	+1,634	+576	+2,101	-1,213
Musgrave	White	-1,723	-180	+1,142	-2,651
New Germany	White	+2,246	+2,574	+396	-746
Escombe	White	+1,343	+453	+1,339	-463
Windermere	White	-1,547	+233	+274	-2,128
Yellow Wood Park	White	-871	+319	+463	-1,727
Westville Central	White	-239	+349	+52	-638
Wentworth	White	-1,346	+82	+105	-1,538
	Total Population	-1,982	+6,016	+8,636	-17,708
	Total Percentage	-2%	+50%	+128%	-26%



Dominant Indian to Majority Indian, Some Black (I to bI)		1996			2001			Population Change 1996-2001	
Community	Apartheid Zone	Total Pop	Black	Indian	Total Pop	Black	Indian	Black	Indian
Crossmoor	Indian	11354	1%	99%	15193	43%	56%	+6,419	-2,732
Lotus Park	Indian	12286	6%	93%	13253	17%	82%	+1,516	-559
Bayview	Indian	16200	5%	93%	12114	12%	87%	+644	-4,527
Westham	Indian	8609	3%	96%	9712	17%	81%	+1,393	-398
Tongaat Central	Indian	7832	9%	90%	7583	17%	82%	+584	-831
Greenbury ^a	Indian	7503	7%	92%	7478	11%	87%	+297	-397
Redfern	Indian	6555	2%	97%	6558	12%	87%	+656	-653
Clayfield	Indian	6646	1%	98%	5877	18%	81%	+991	-1,753
Verulam Central	Indian	5700	5%	94%	4901	13%	85%	+352	-1,192
Rockford	Indian	4034	9%	91%	4394	24%	75%	+692	-375
Mobeni Heights	Indian	4244	9%	91%	4130	34%	65%	+1,022	-1,178
Parlock ^a	Indian	3773	8%	90%	3726	12%	85%	+145	-229
Bulbul ^b	IndianRural	403	2%	96%	3684	27%	71%	+987	+2,229
Duffs Road ^c	Indian	1303	7%	92%	930	17%	82%	+67	-436
Total Population		96442	4838	90792	99533	20529	77752	+15,691	-13,040
Percent of Total			5%	94%		21%	78%	+324%	-14%

a. Parlock and Greenbury experienced a small proportional change, though enough to cross a threshold.

b. Bulbul has a very small population in 1996 which expands significantly in 2001.

c. Duffs Road has very small population and is a transportation hub.

Parlock, Bulbul, and Duffs Road are excluded from summary statistic of this group of communities (Greenbury, with larger population change, will remain).

Community Service, Infrastructure, and Economic Characteristics

Full City	1996	2001
Population Density	4752	4776
Income Rank	214	199
Highway Distance	1867m	
Public Transportation Count	32	
Clinic Density	.088	
Unemployment Rate	40.7%	54.6%
Informal Housing	4.4%	9.2%
Toilet Access	87.0%	85.3%
Water in Dwelling	76.8%	55.9%

Desegregating Communities	1996	2001
Population Density	2948	3230
Income Rank	100	135
Highway Distance	1202m	
Public Transportation Count	55	
Clinic Density	.094	
Unemployment Rate	13.3%	24.7%
Informal Housing	0.6%	3.7%
Toilet Access	99.1%	95.4%
Water in Dwelling	97.5%	80.2%

Mixed Static Communities	1996	2001
Population Density	3309	2734
Income Rank	130	122
Highway Distance	1504m	
Public Transportation Count	60	
Clinic Density	.092	
Unemployment Rate	15.3%	33.2%
Informal Housing	5.8%	7.7%
Toilet Access	94.9%	90.0%
Water in Dwelling	93.2%	78.5%

All figures weighted by population or households, as necessary. Undated figures use 2001 weight.

Legacy: Black (N=141)	1996	2001
Population Density	6294	6263
Income Rank	300	255
Highway Distance	2097m	
Public Transportation Count	26	
Clinic Density	.081	
Unemployment Rate	48.8%	59.6%
Informal Housing	33.9%	25.0%
Toilet Access	39.5%	58.9%
Water in Dwelling	28.8%	15.2%

Legacy: Indian (N=35)	1996	2001
Population Density	6170	6482
Income Rank	145	230
Highway Distance	1026m	
Public Transportation Count	27	
Clinic Density	.116	
Unemployment Rate	15.2%	21.7%
Informal Housing	0.4%	1.1%
Toilet Access	99.5%	98.6%
Water in Dwelling	98.8%	88.6%

Legacy: White (N=34)	1996	2001
Population Density	1438	1360
Income Rank	35	42
Highway Distance	724m	
Public Transportation Count	34	
Clinic Density	.043	
Unemployment Rate	3.8%	7.8%
Informal Housing	0.6%	0.7%
Toilet Access	99.4%	98.7%
Water in Dwelling	98.6%	89.5%

All figures weighted by population or households, as necessary. Undated figures use 2001 weight.

Medians, by Community Type	N	Population Density-1996 (per sqK)	Population Density-2001 (per sqK)	Income Rank 1996	Income Rank 2001	Distance to Highway/ Freeway	Public Transport Routes	Fixed Clinic Density
Legacy W	34	1438	1360	35	44	724m	34	.043
W to biW	10	3115	2204	53	63	1543m	99	.070
biW, 1996-2001	9	2589	2734	60	79	1170m	74	.040

Medians by Community Type	N	Informal Housing		Toilet Access		Water in Home		Unemployment	
		1996	2001	1996	2001	1996	2001	1996	2001
Legacy W	34	0.6%	0.7%	99.4%	98.7%	98.6%	89.5%	3.8%	7.8%
W to Wbi	10	0.3%	1.2%	99.6%	98.2%	98.7%	90.1%	4.4%	7.6%
biW, 1996-2001	9	0.3%	0.8%	99.5%	98.9%	98.3%	91.7%	6.2%	11.9%

Medians, by Community Type	N	Population Density 1996	Population Density 2001	HH Income Rank 1996	HH Income Rank 2001	Distance to Highway/ Freeway	Public Transport Routes	Fixed Clinic Density
Legacy I	35	6170	6482	145	230	1026m	27	.116
I to bI	11	5999	6087	162	229	850m	46	.090
bI, 1996-2001	13	2947	1977	127	140	1504m	33	.097

Medians by Community Type	N	Informal Housing		Toilet Access		Water in Home		Unemployment	
		1996	2001	1996	2001	1996	2001	1996	2001
Legacy I	35	0.4%	1.1%	99.5%	98.6%	98.8%	88.6%	15.2%	21.7%
I to bI	11	0.3%	3.7%	99.5%	95.4%	99.1%	82.8%	16.9%	25.8%
bI, 1996-2001	13	5.8%	8.0%	92.3%	89.8%	92.9%	76.7%	13.6%	21.7%

All statistics weighted by households or population, as needed.

