

Journey to Work 1996-2011

Summary Statistics for Victoria

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1 Introduction

This report provides information from the 1996, 2001, 2006 and 2011 Australian Bureau of Statistics Census data about where and how people travel to work.

The summary of journey to work travel as presented in this report, will inform Government and planning professionals on the origins, destinations and modes of travel to work in Victoria. Moreover, the consideration of data for 1996, 2001, 2006 and 2011 will provide insight into how travel for journey to work has evolved over time.

In previous reports (VicRoads 1999, 2008), the data was presented in table format for each local government area (LGA) and other geographic areas. In this report, the data is presented in graphical and map formats for the Melbourne Statistical Division (MSD) and the rest of Victoria. To reveal the travel pattern, different scales of the symbology are used for the maps for MSD and Victoria, and for different modes of travel. This needs to be borne in mind when comparing maps of the MSD and Victoria, and different modes of travel.

Maps are presented for 2001 and 2011 to illustrate the change of spatial pattern of journey to work in the last 10 years. Data in table format is available from the Victorian Transport Statistics Portal developed by the Department of Transport, Planning and Local Infrastructure (2013).

In addition, the influence of income, occupation, employment status and age on the method of travel is presented. Due to data availability, maps for these data are presented for 2006 and 2011.

For consistency and to avoid double counting, the following definitions of modes are used throughout the report:

- Private vehicle = all trips with a private vehicle leg (car driver, car passenger, truck, motorcycle, taxi) but without a public transport leg
- Public Transport = all trips with a public transport leg (train, tram, bus, ferry)
- Bicycle = bicycle only + bicycle, other
- Walk = walk only
- Other modes = other

2 Number of Trips

2.1 Trips by Mode and Year

Figure 1 and Figure 2 show the total work trips by mode and year for the MSD and rest of Victoria respectively. The work trips of all modes in the MSD grew significantly between 2006 and 2011 compared with the previous Census years. Private vehicle grew by 10%, public transport 33%, bicycle 36% and walk 10% from 2006 to 2011. This is consistent with the results in the Traffic Monitor 2011-2012 (VicRoads 2013), which shows volumes of private vehicle grew by 11%, public transport 33% and bicycle 33% from 2006 to 2011.

Also shown in Figure 1 are the numbers of people who worked at home and did not go to work (e.g. on leave, part-time) on the Census day. They contributed to 14% of the total number of workers in the MSD in 2011.

For the rest of Victoria, the growth of private vehicle trips has been high since 1996. The growth was 19% between 2006 and 2011, much higher than the 10% in the MSD. There was a sudden jump of public transport trips between 2006 and 2011, a growth of about 120%. However, the share of public transport was very small in the rest of Victoria, which

was about 3% in 2011. Bicycle and walk trips grew steadily from 1996 to 2006 but declined slightly between 2006 and 2011.

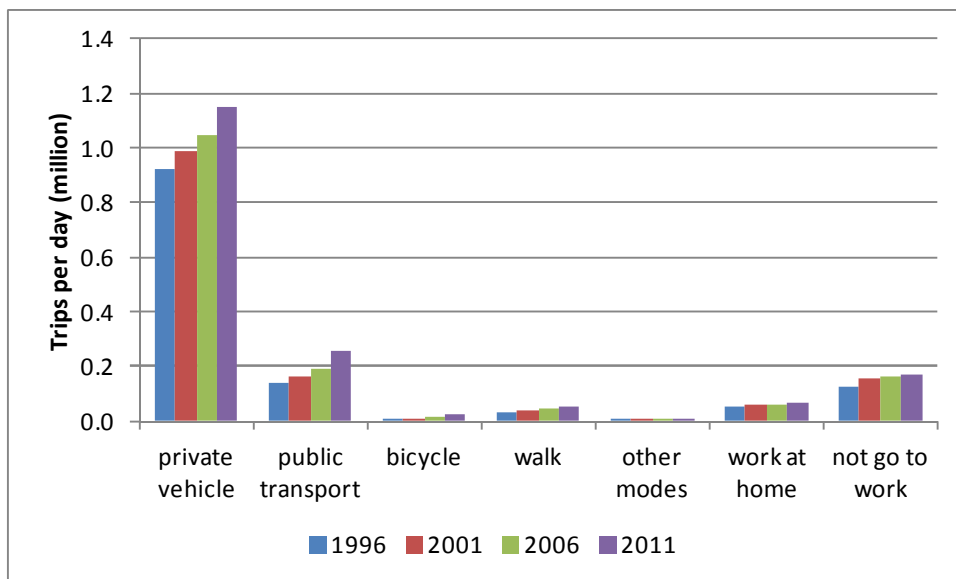


Figure 1: Total work trips by mode and year, Melbourne Statistical Division

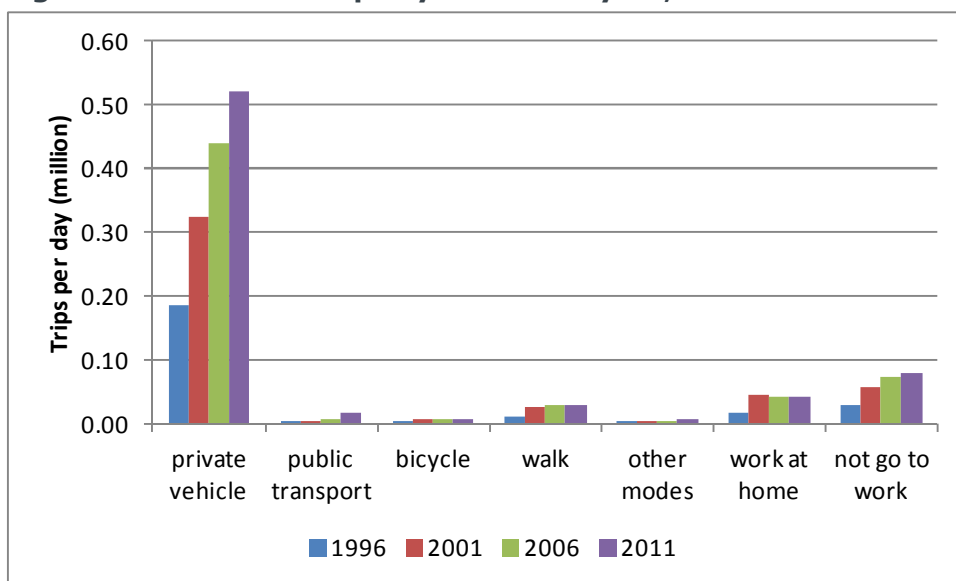


Figure 2: Total work trips by mode and year, rest of Victoria

2.2 Private vehicles

Figure 3 and Figure 4 show the origins of the journey to work by private vehicle in 2011 in the MSD and rest of Victoria respectively. Also shown are the boundaries of LGAs. Figure 5 and Figure 6 show the names of the LGAs in the MSD and rest of Victoria respectively.

The origins of the private vehicle trips were widely dispersed throughout the urban growth boundary in the MSD. This indicates the sprawling nature of residents and the resulted heavy reliance of private vehicles in the MSD. Not many private vehicle trips started from the City of Melbourne, as it was mainly the destination, rather than the origin, of the journey to work. Also, many people travelled to work by public transport or walking in the City of Melbourne.

For the rest of Victoria, the origins of private vehicle trips concentrated mostly in major towns and along major highways.

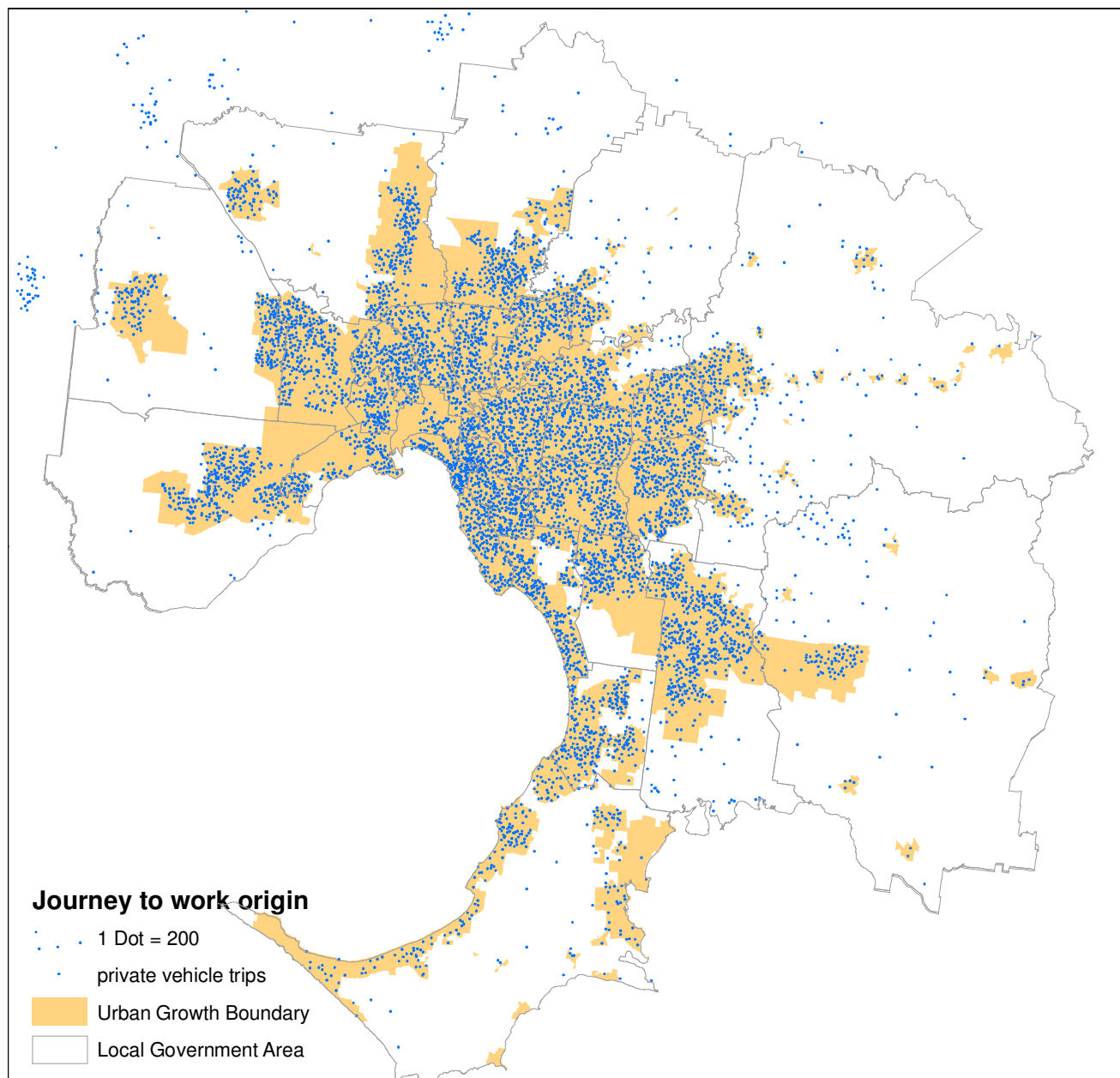


Figure 3: Origins of journey to work by private vehicle, Melbourne Statistical Division 2011

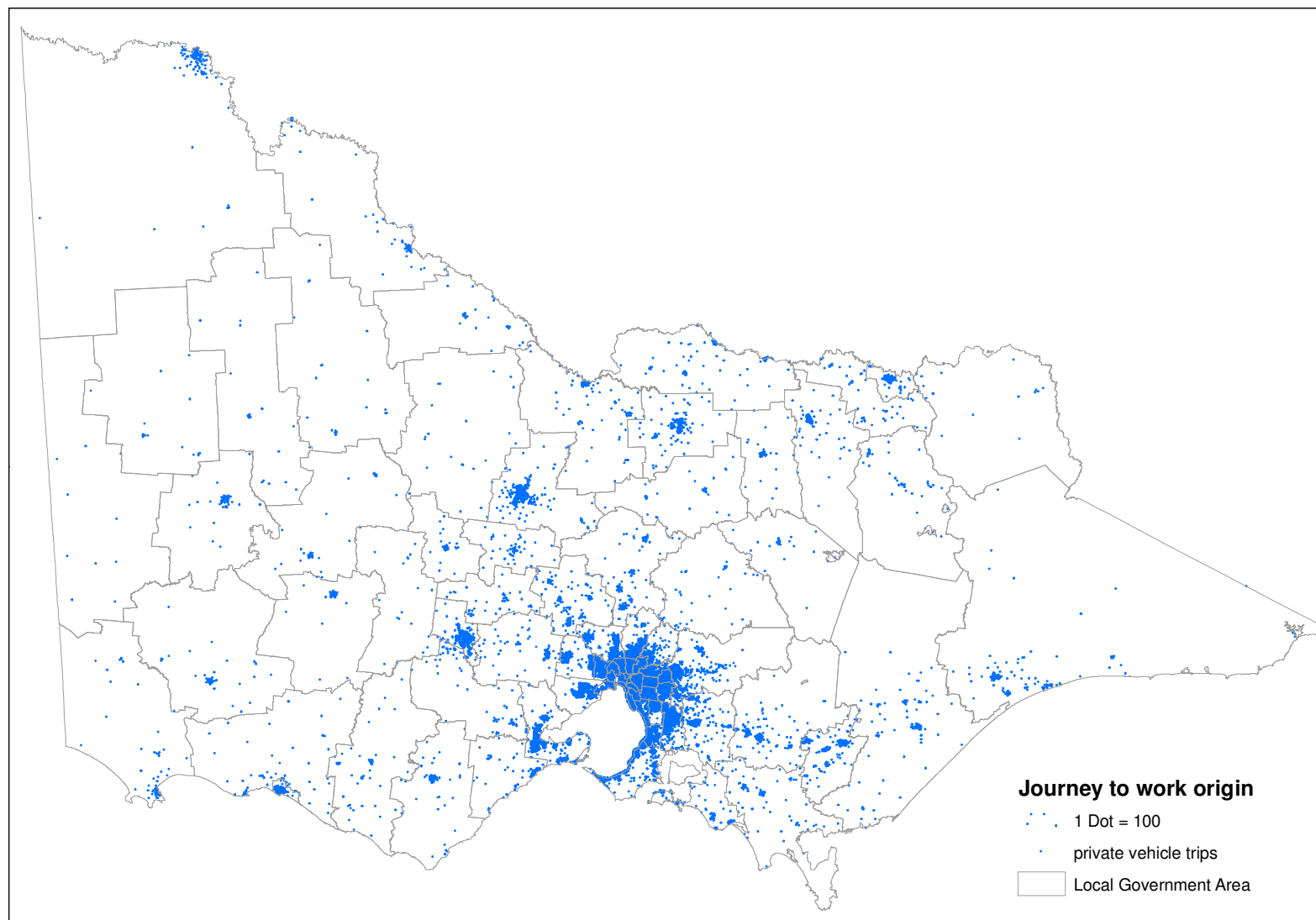


Figure 4: Origins of journey to work by private vehicle, Victoria 2011



Figure 5: Local Government Areas in the Melbourne Statistical Division



Figure 6: Local Government Areas in rest of Victoria

Figure 7 and Figure 8 show the change of origins of journey to work by private vehicle between 2001 and 2011 in the MSD and Victoria respectively. The most significant growth in the MSD was in the growth areas of Wyndham, Melton, Hume, Whittlesea, Casey and Cardinia.

The growth of private vehicle trips in the rest of Victoria was mainly around major towns, such as Geelong, Bendigo and Ballarat.

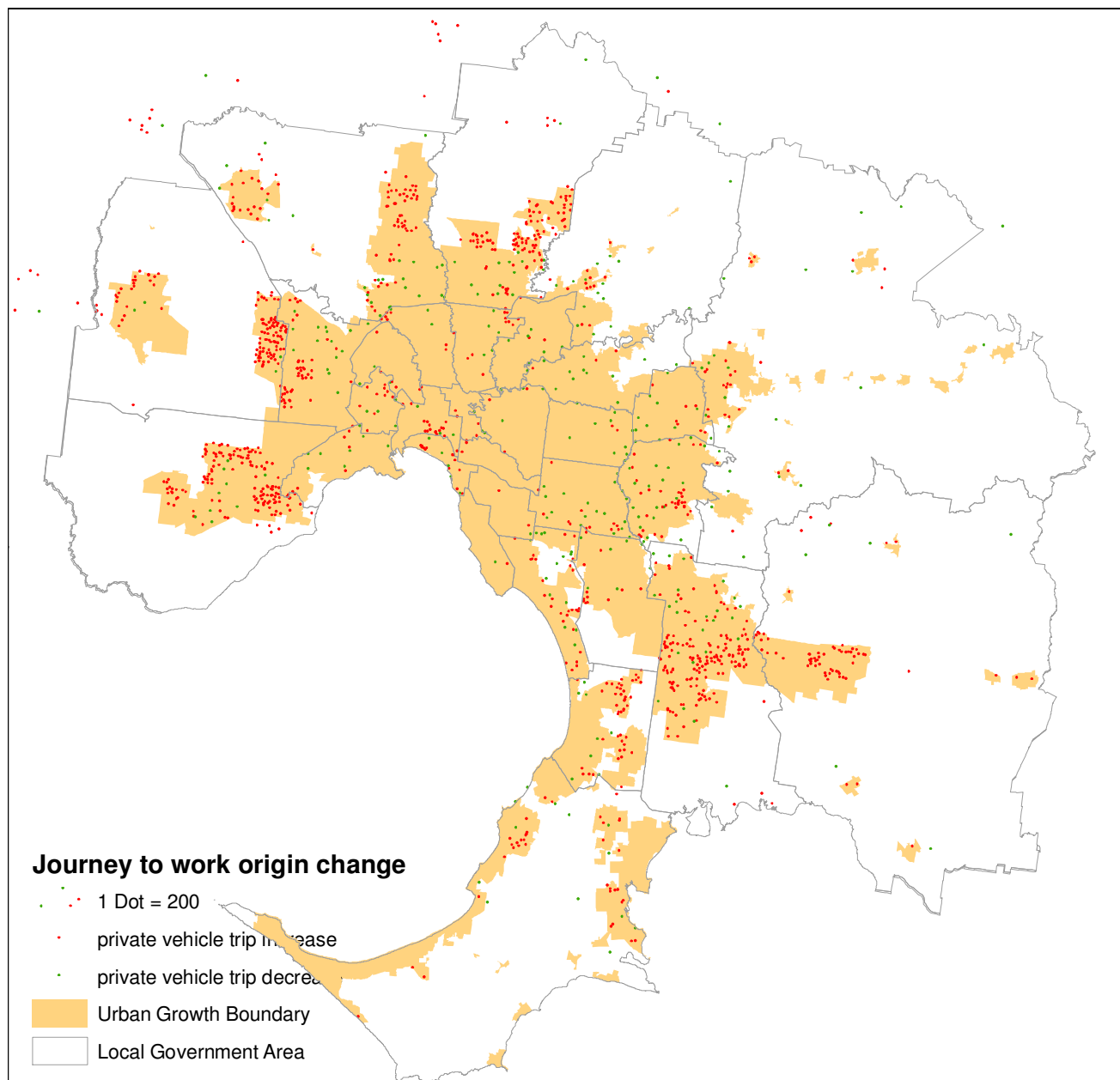


Figure 7: Change of origins of journey to work by private vehicle, Melbourne Statistical Division 2001-2011

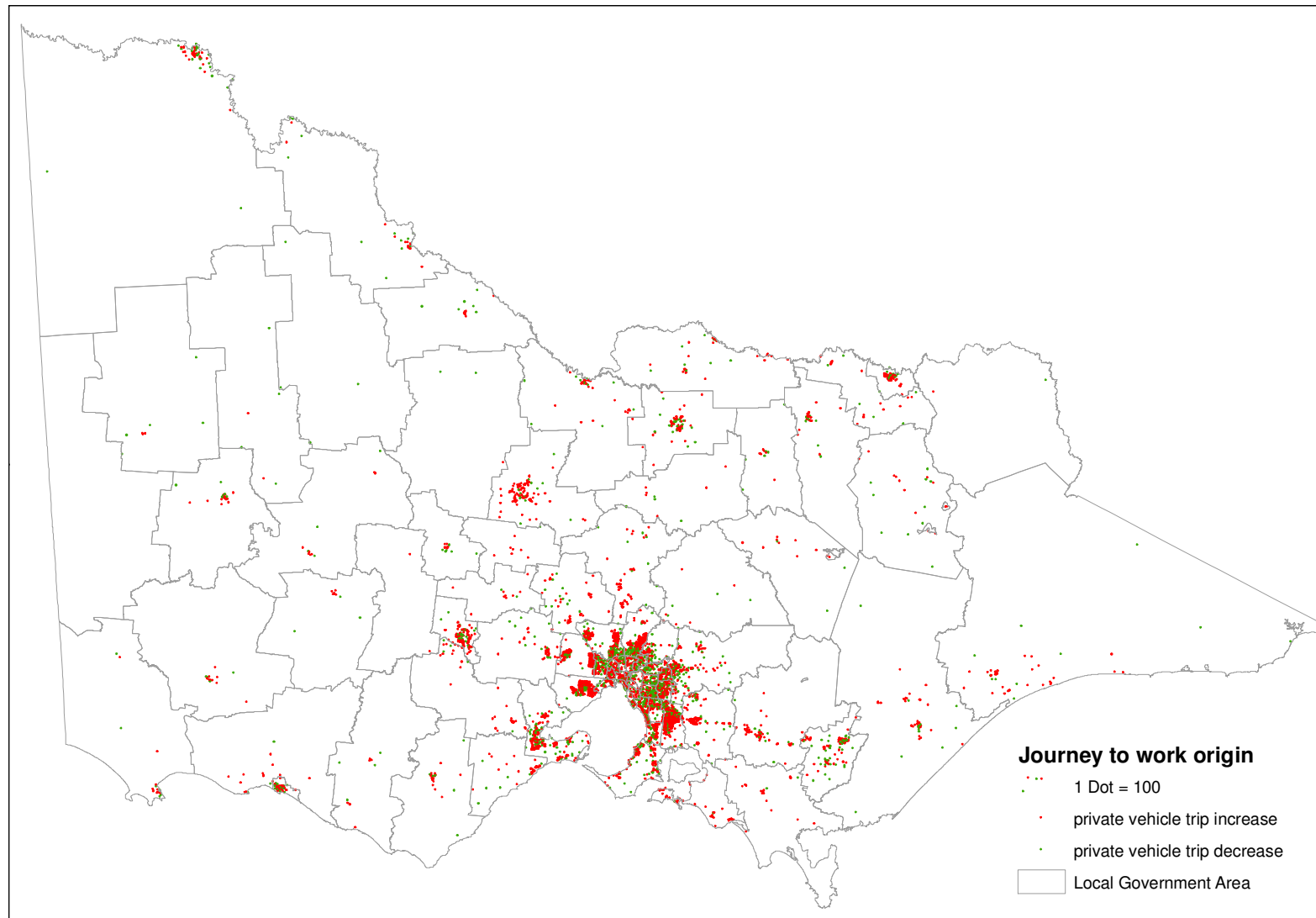


Figure 8: Change of origins of journey to work by private vehicle, Victoria 2001-2011

Figure 9 and Figure 10 show the destinations of journey to work by private vehicle in the MSD and Victoria respectively. The destinations of private vehicle trips in the MSD were generally quite dispersed, although many trips went to the Cities of Melbourne, Monash and Greater Dandenong.

As for trip origins, most of the private vehicle trip destinations in the rest of Victoria concentrated in major towns, such as Geelong, Bendigo and Ballarat.

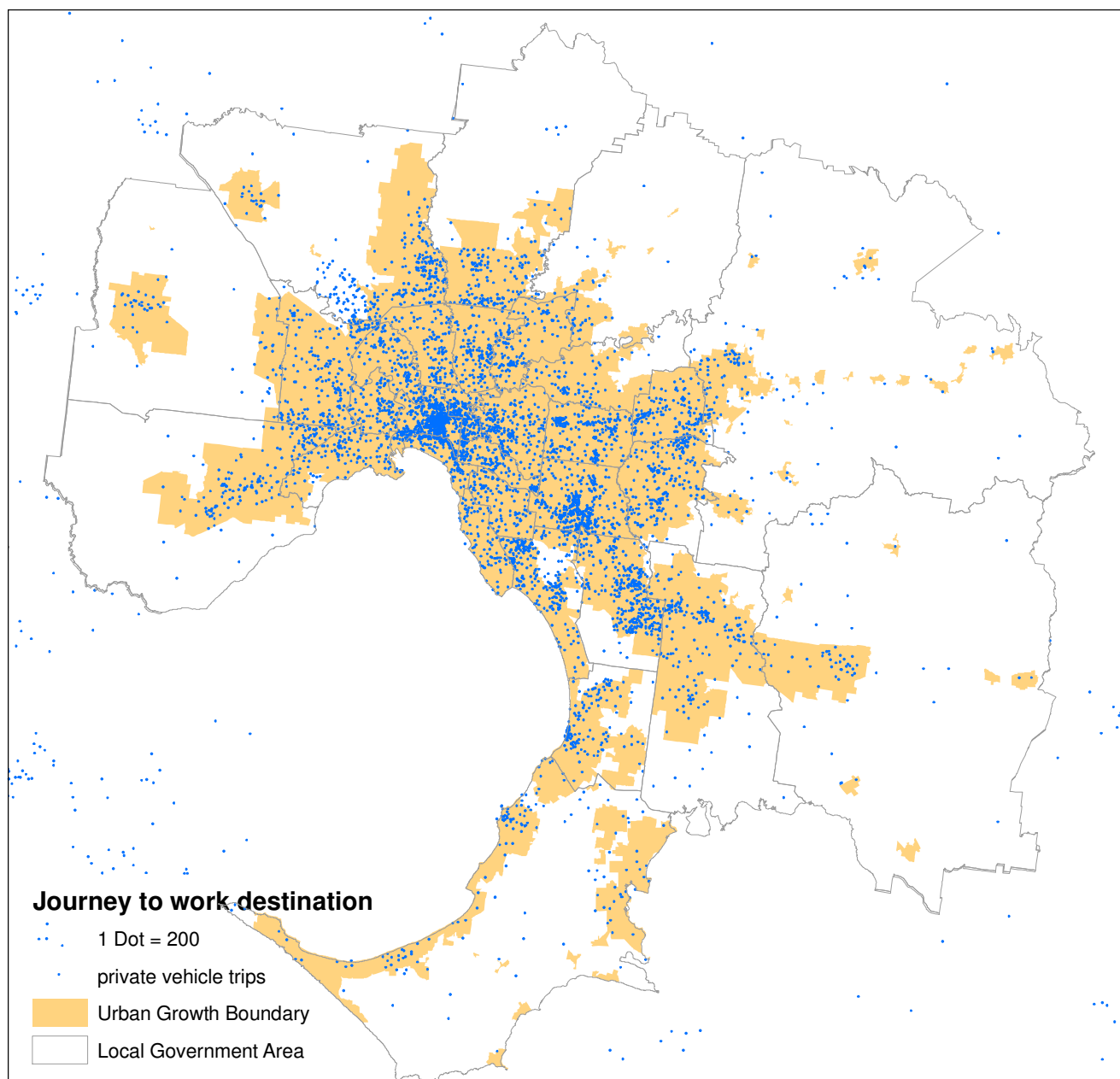


Figure 9: Destinations of journey to work by private vehicle, Melbourne Statistical Division 2011

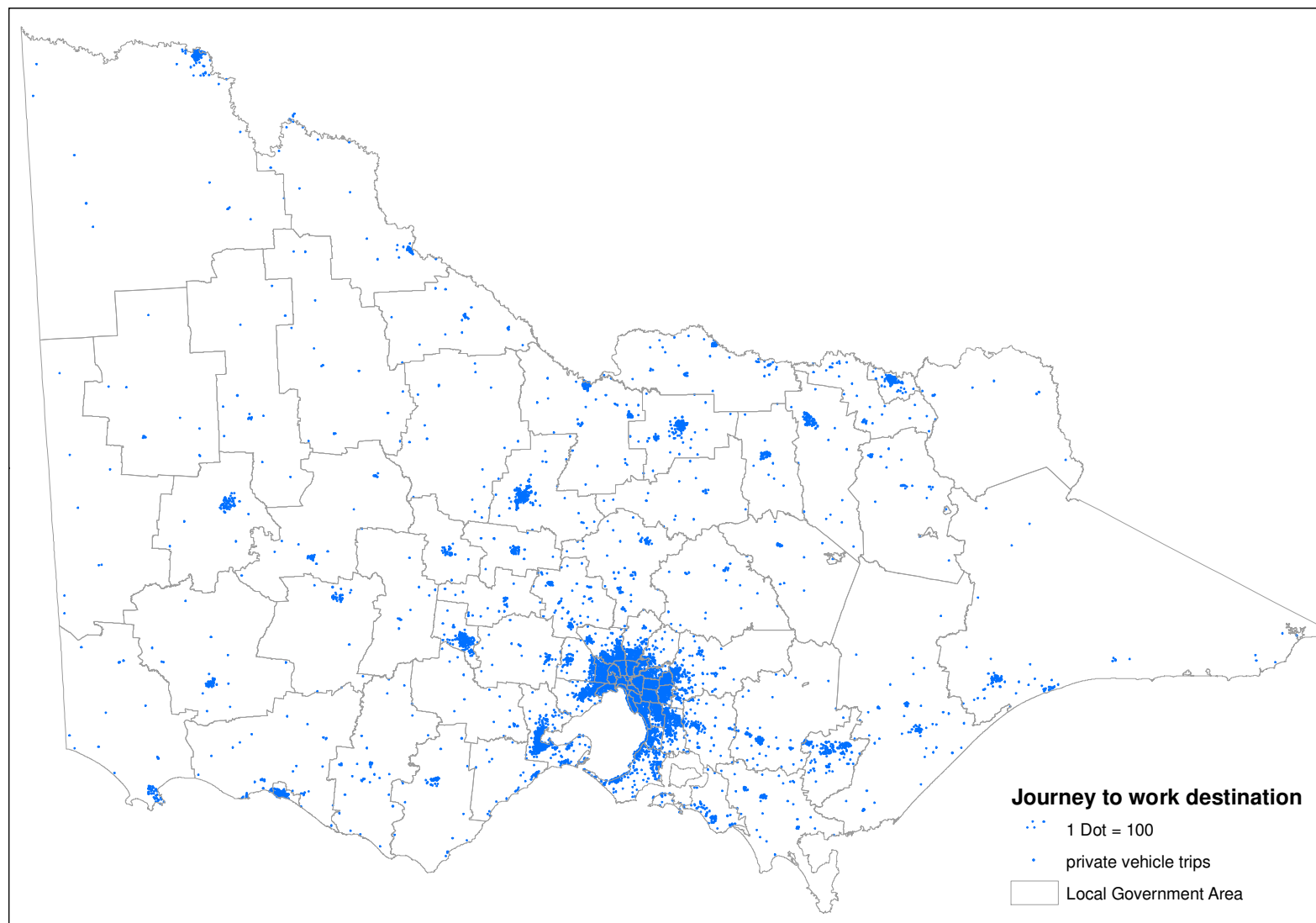


Figure 10: Destinations of journey to work by private vehicle, Victoria 2011

Figure 11 shows the change of destinations of journey to work by private vehicle between 2001 and 2011 in the MSD. The major change in the journey to work destinations was the shift from the Melbourne CBD to Docklands or Southbank. Elsewhere in the MSD, there were generally more increases than decreases in journey to work destinations.

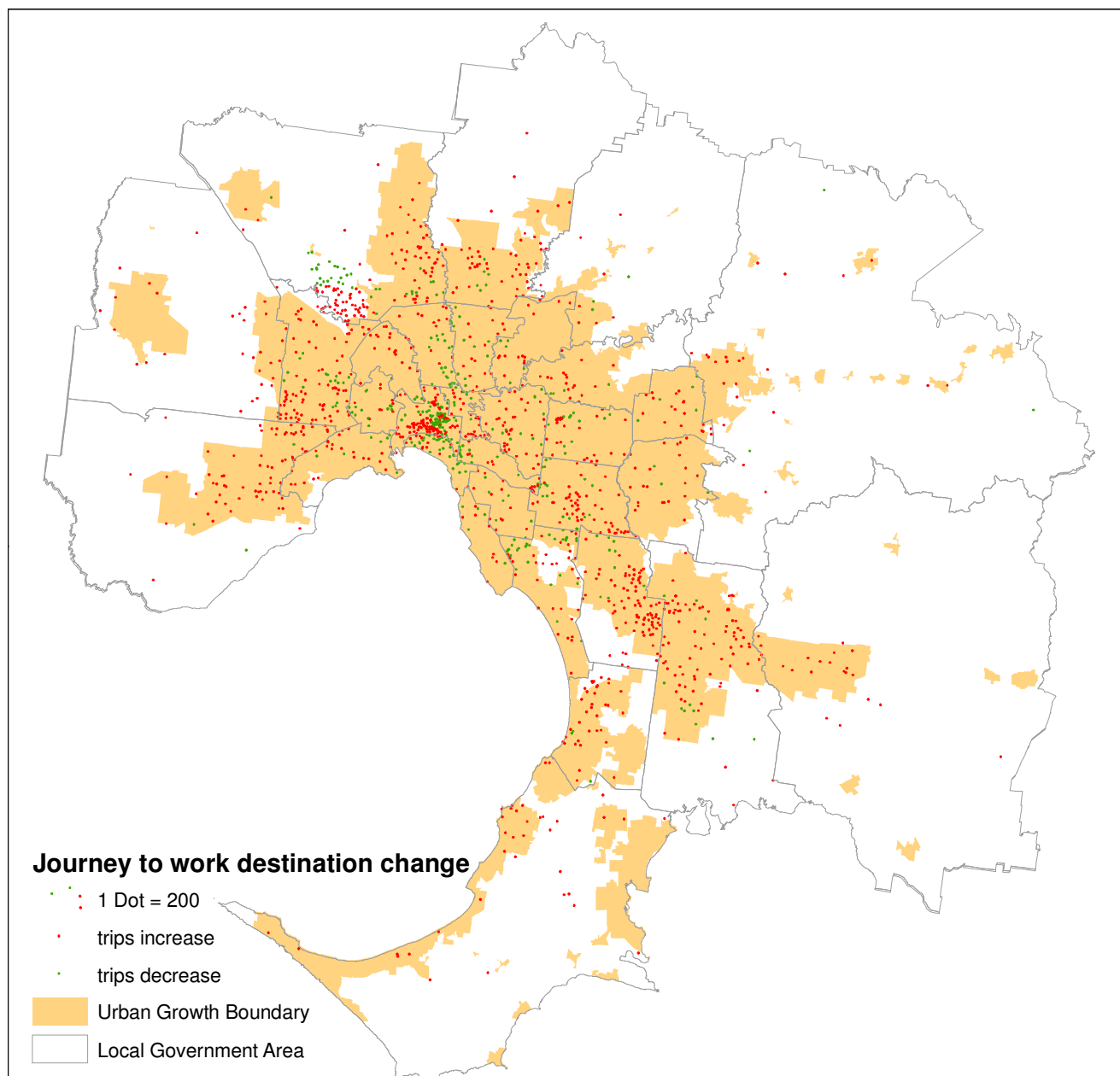


Figure 11: Change of destinations of journey to work by private vehicle, Melbourne Statistical Division 2001-2011

2.3 Public Transport

Figure 12 and Figure 13 show the origins of journey to work by public transport in the MSD and Victoria respectively. People living in the inner suburbs and along the rail corridors in the MSD were most likely to catch public transport to work.

For the rest of Victoria, people living in Geelong, Bendigo, Ballarat and Warragul, and along the rail corridors between these towns and Melbourne were more likely to catch public transport to work.

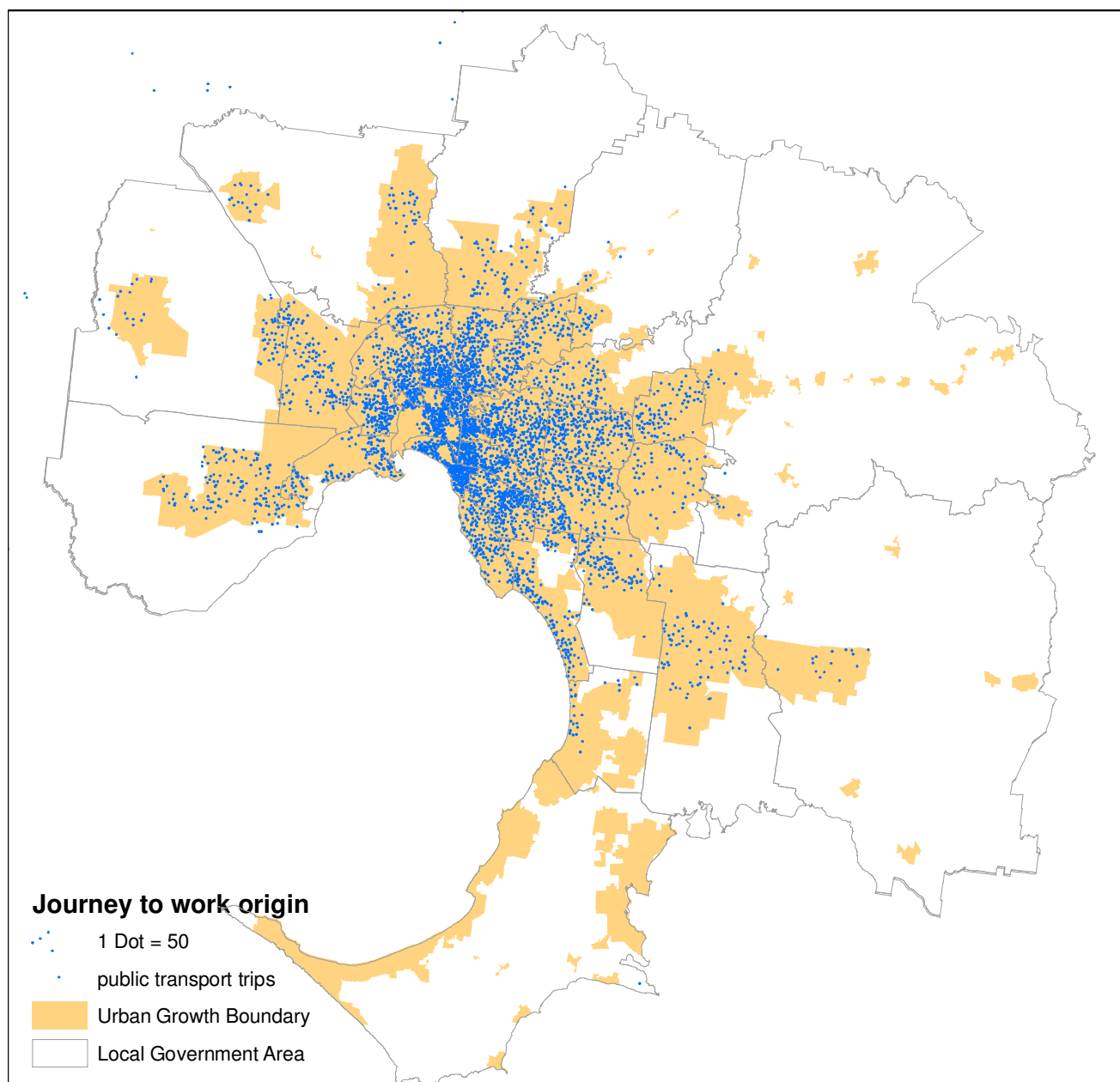


Figure 12: Origins of journey to work by public transport, Melbourne Statistical Division 2011

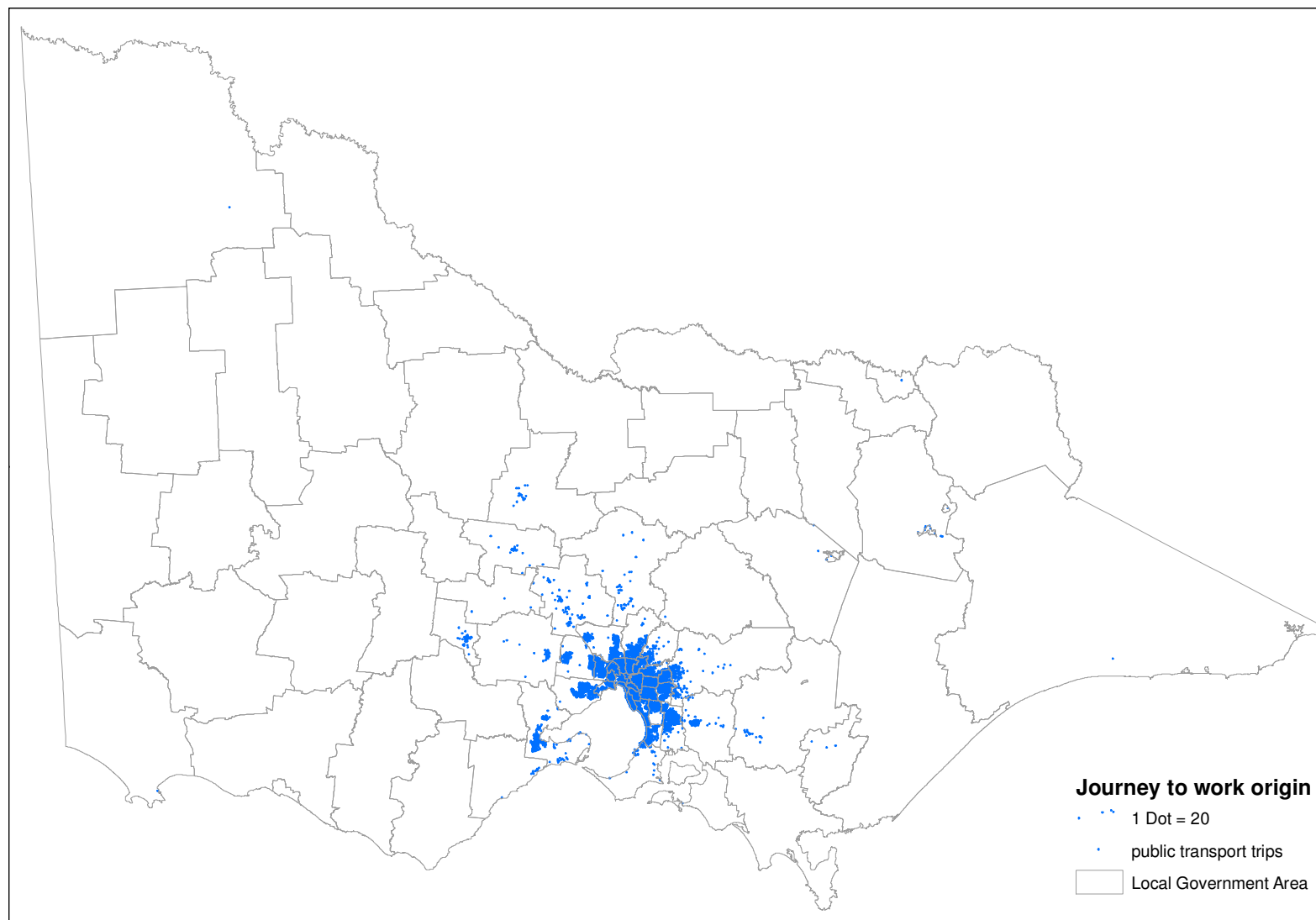


Figure 13: Origins of journey to work by public transport, Victoria 2011

Figure 14 and Figure 15 show the change of origins of journey to work by public transport between 2001 and 2011 in the MSD and Victoria respectively. The highest increase in the public transport trips was in the City of Melbourne, inner suburbs and along the rail corridors. There were also significant increases in public transport trips in the growth areas of Wyndham, Melton, Hume, Whittlesea, Casey and Cardinia.

For the rest of Victoria, the highest increase in public transport trips was in Geelong and Macedon Ranges. The Alpine resorts of Mt Bulla, Mt Stirling, Mt Hotham and Falls Creek also had significant increase in public transport trips likely to be reflecting local use of snowfields workers bus services.

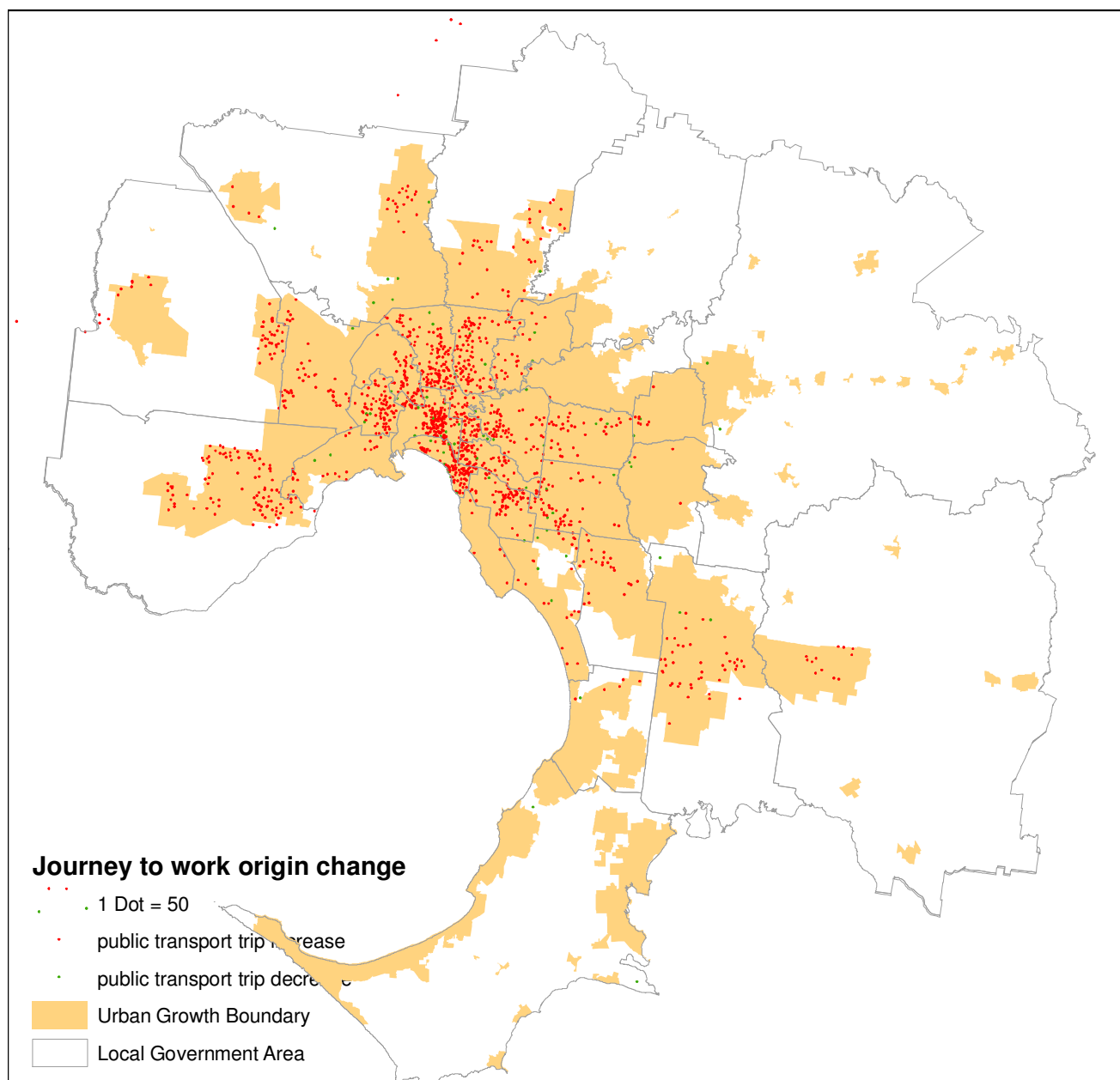


Figure 14: Change of origins of journey to work by public transport, Melbourne Statistical Division 2001-2011

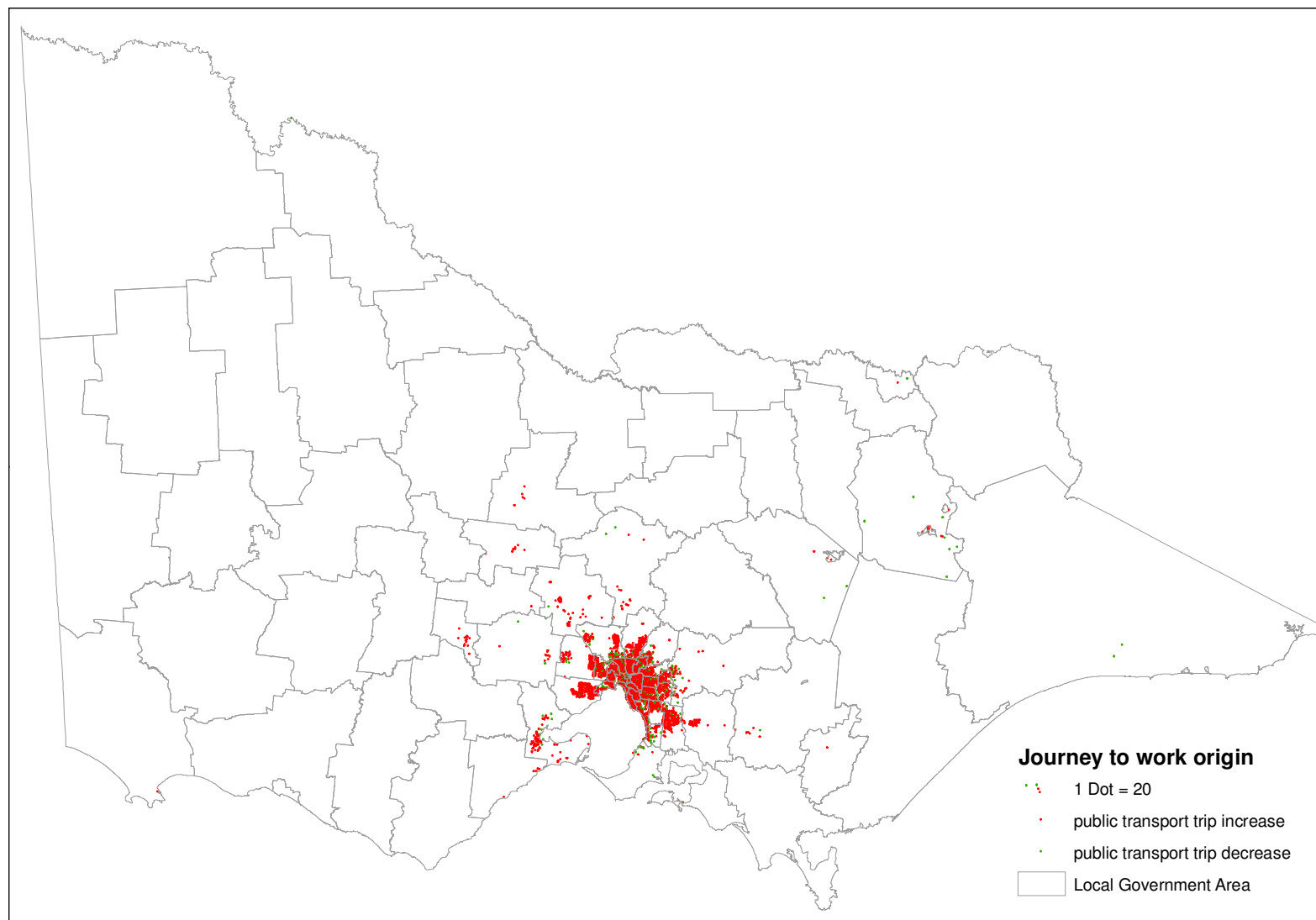


Figure 15: Change of origins of journey to work by public transport, Victoria 2001-2011

Figure 16 and Figure 17 show the destinations of journey to work by public transport in the MSD and Victoria respectively. Most public transport trips in the MSD went to the City of Melbourne and inner suburbs.

For the rest of Victoria, most public transport trips went to Geelong, Ballarat and the Alpine resorts.

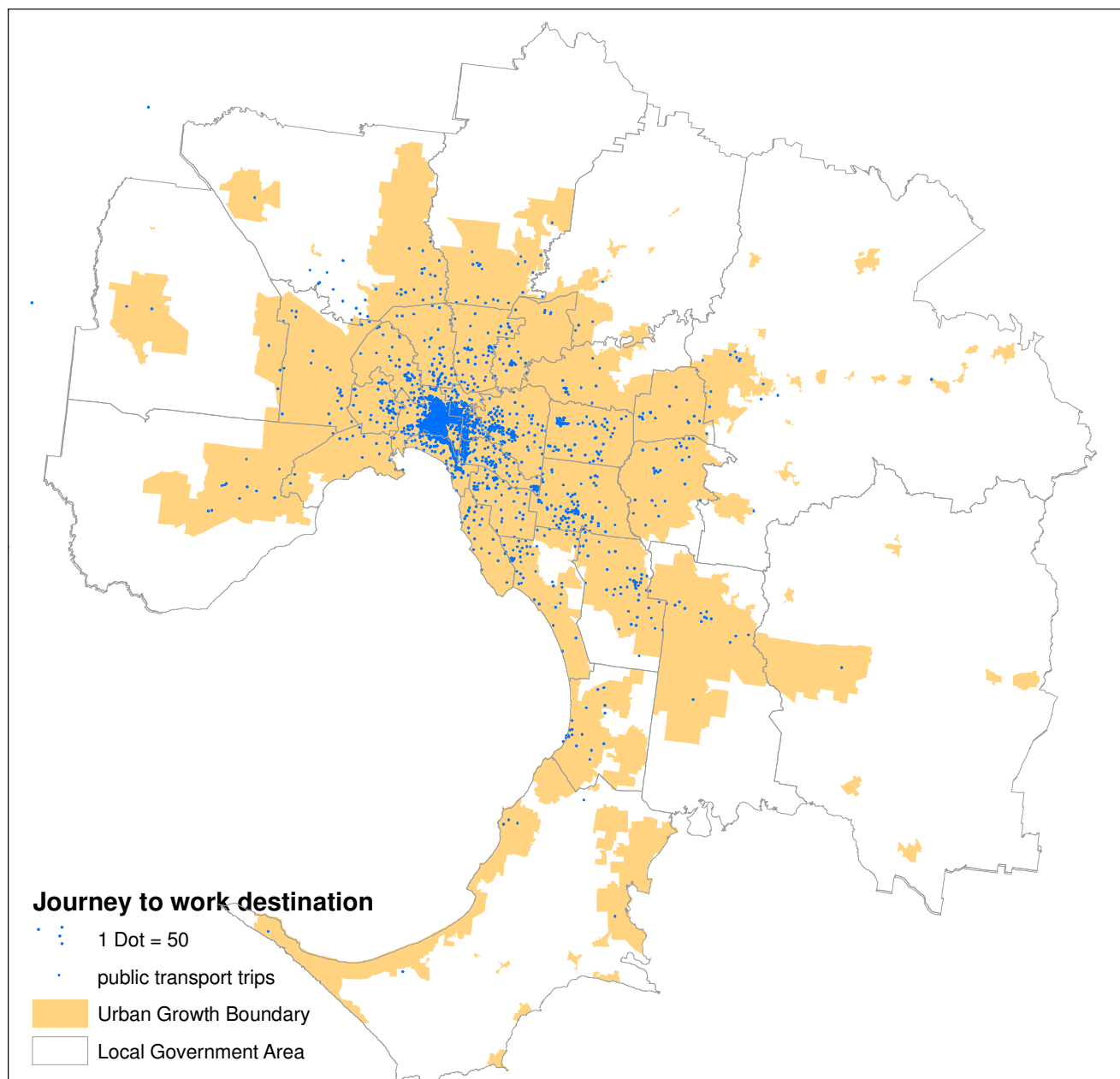


Figure 16: Destinations of journey to work by public transport, Melbourne Statistical Division 2011

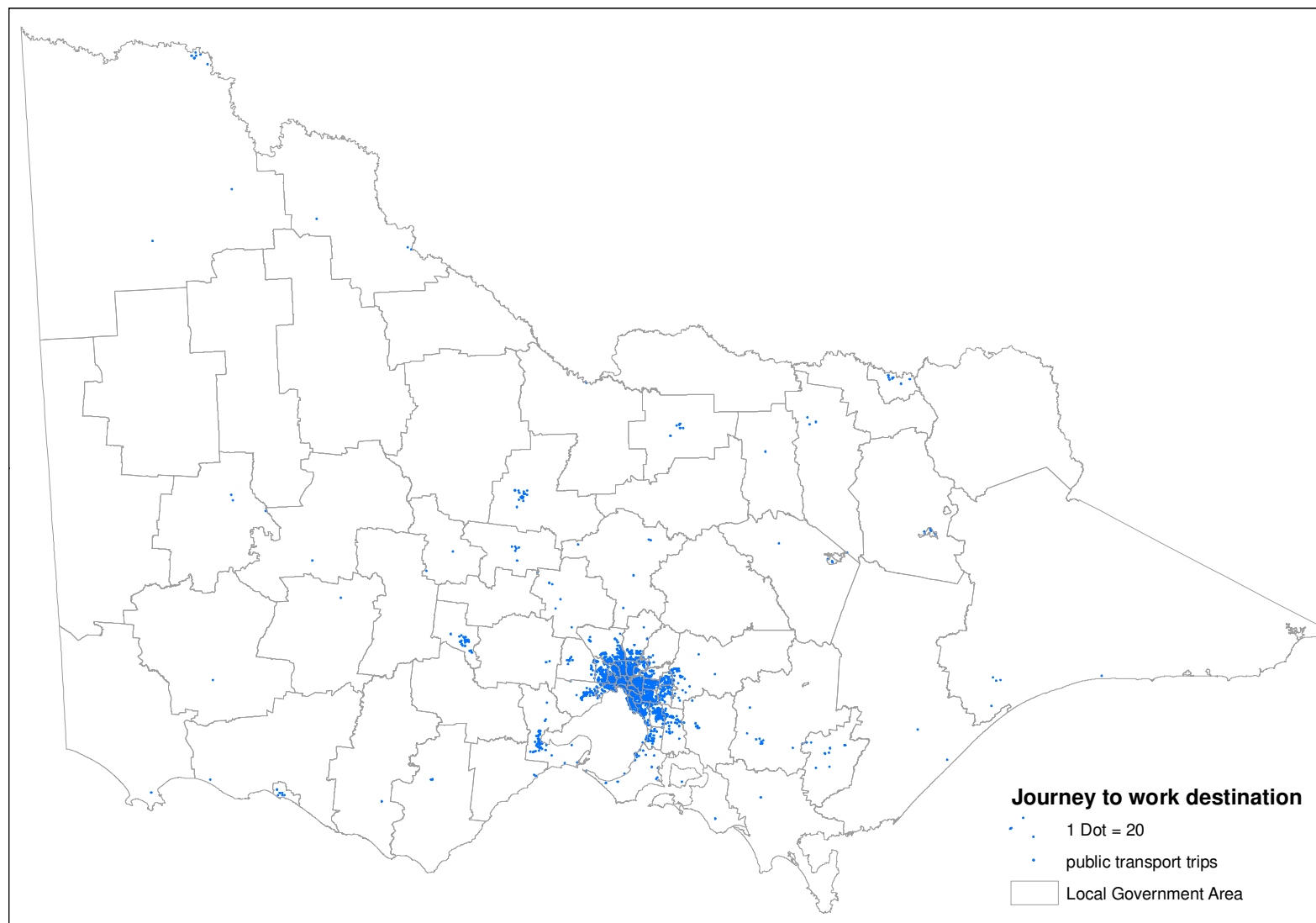


Figure 17: Destinations of journey to work by public transport, Victoria 2011

Figure 18 shows the change of destinations of journey to work by public transport between 2001 and 2011 in the MSD. The major change was in the increase in trips to the City of Melbourne and some inner suburbs. Elsewhere in the MSD, there were generally increases in public transport destinations, particularly in Box Hill. However, most of the increases were small and dispersed.

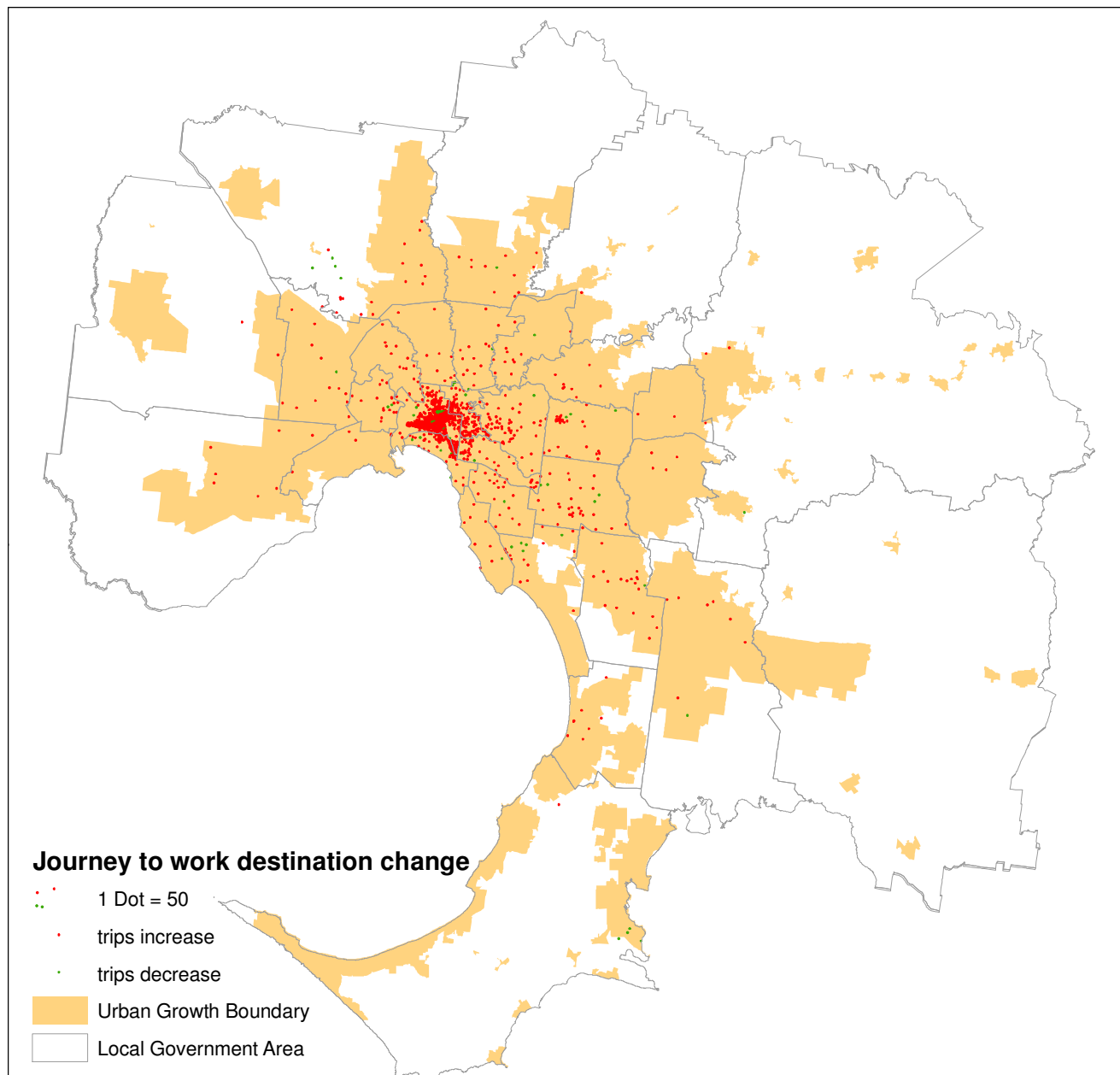


Figure 18: Change of public transport trip destination, Melbourne Statistical Division 2001-2011

2.4 Bicycles

Figure 19 and Figure 20 show the origins of journey to work by bicycle in 2011 in the MSD and Victoria respectively. Most bicycle trips came from inner suburbs, although a significant number of bicycle trips also came from the City of Melbourne. The number of bicycle trips dropped off significantly in middle suburbs and were rare in the outer suburbs.

For the rest of Victoria, most bicycle trips occurred at town centres, such as Geelong, Bendigo and Ballarat.

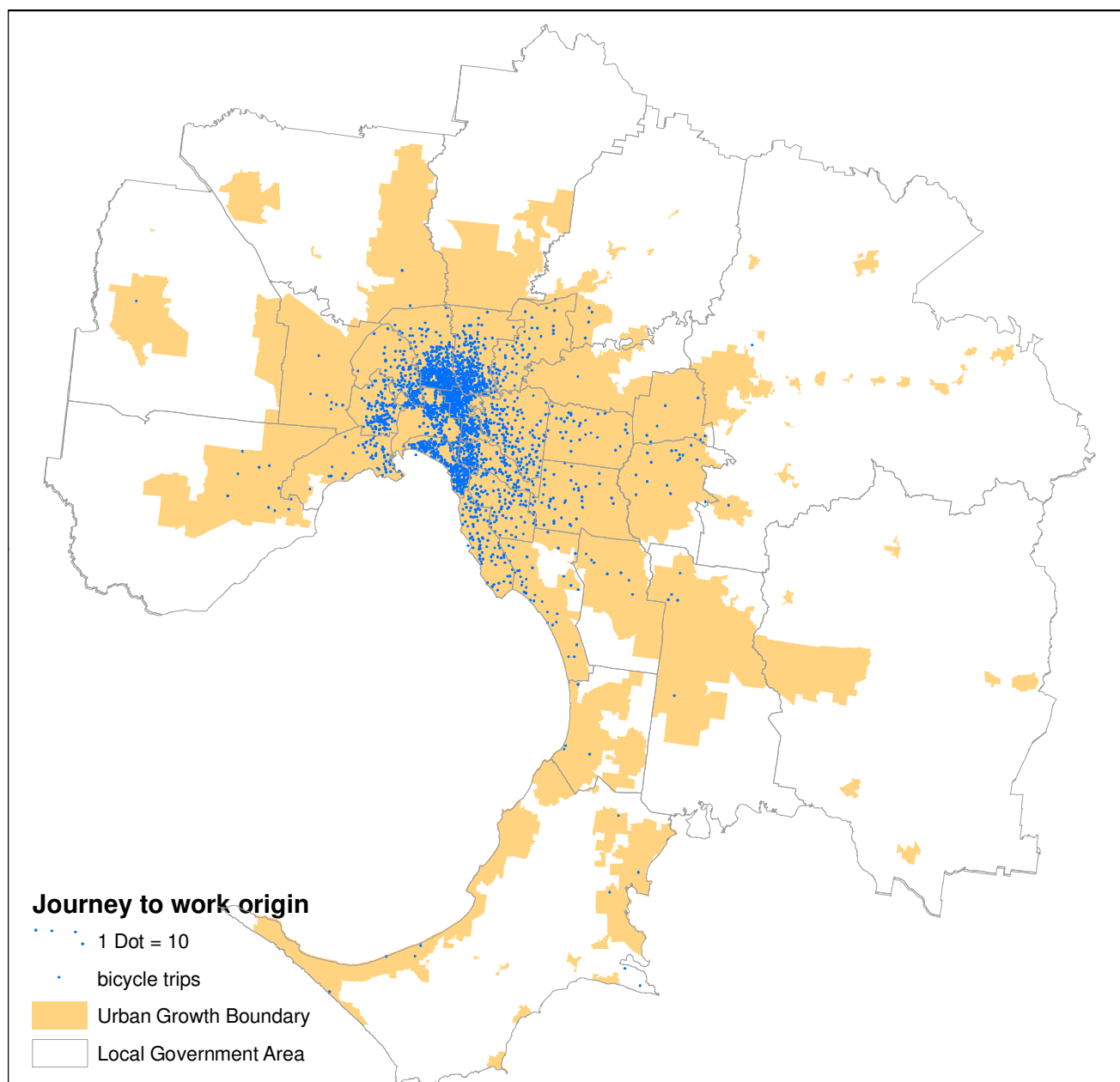


Figure 19: Origins of journey to work by bicycle, Melbourne Statistical Division 2011

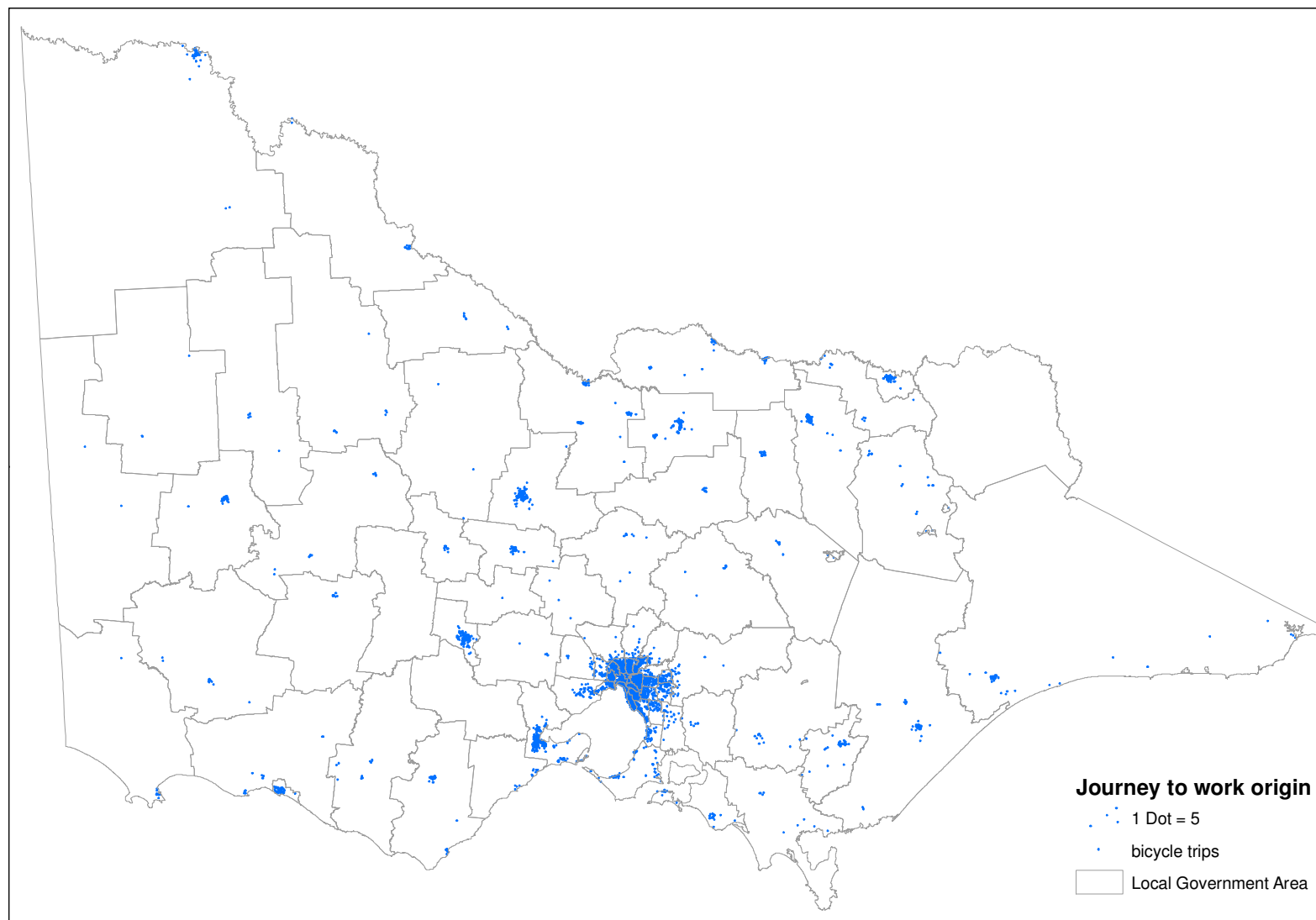


Figure 20: Origins of journey to work by bicycle, Victoria 2011

Figure 21 and Figure 22 show the change of the origins of journey to work by bicycle between 2001 and 2011 in the MSD and rest of Victoria respectively. Most of the increase in bicycle trips in the MSD occurred in the inner suburbs, particularly northern inner suburbs such as Brunswick, Fitzroy and Northcote.

For the rest of Victoria, changes in bicycle trips occurred mostly in town centres, with some areas with increasing bicycle use and other areas with decreasing bicycle use. Overall, there was a slight decrease of bicycle use in the rest of Victoria.

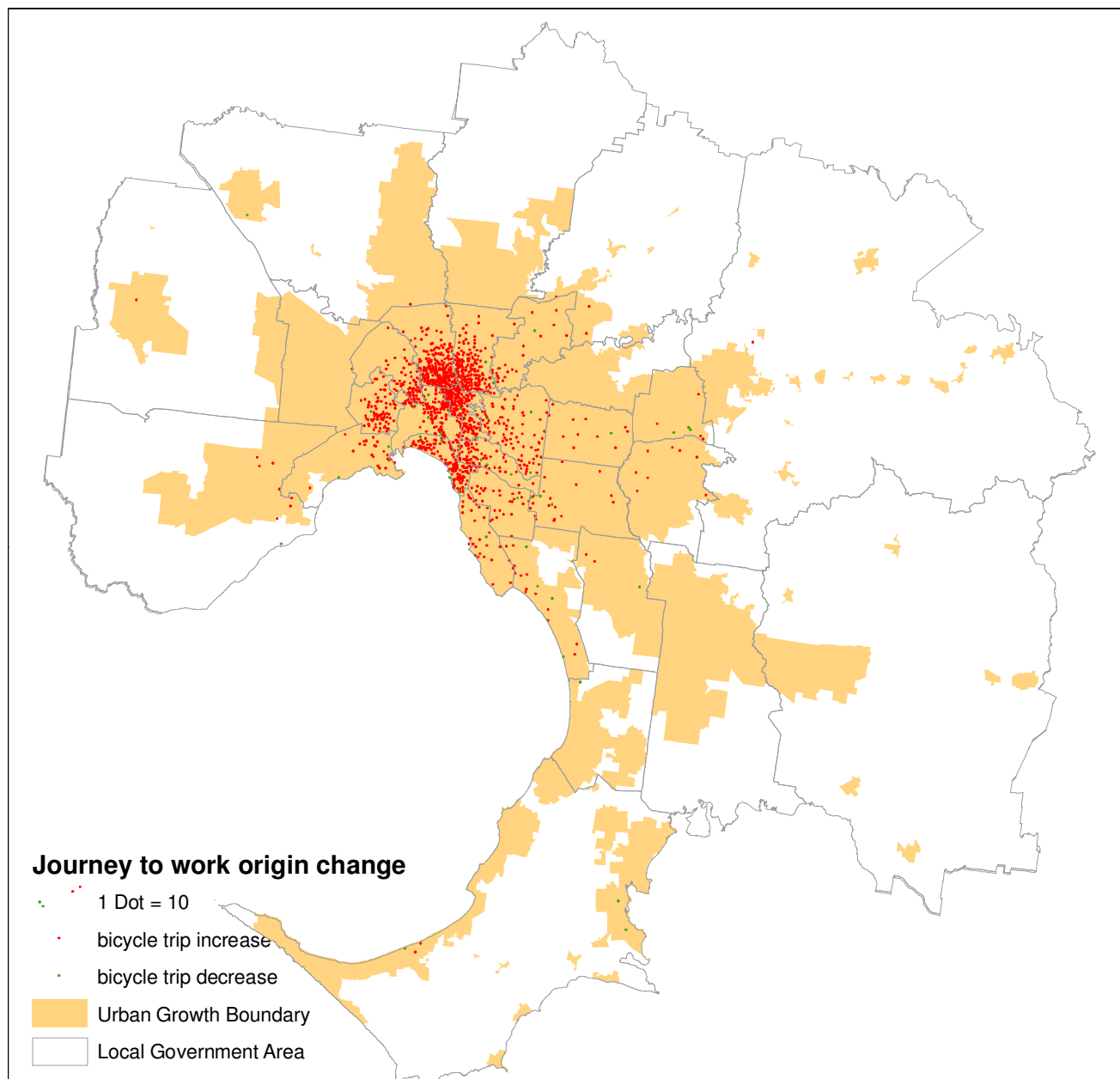


Figure 21: Change of origins of journey to work by bicycle, Melbourne Statistical Division 2001-2011

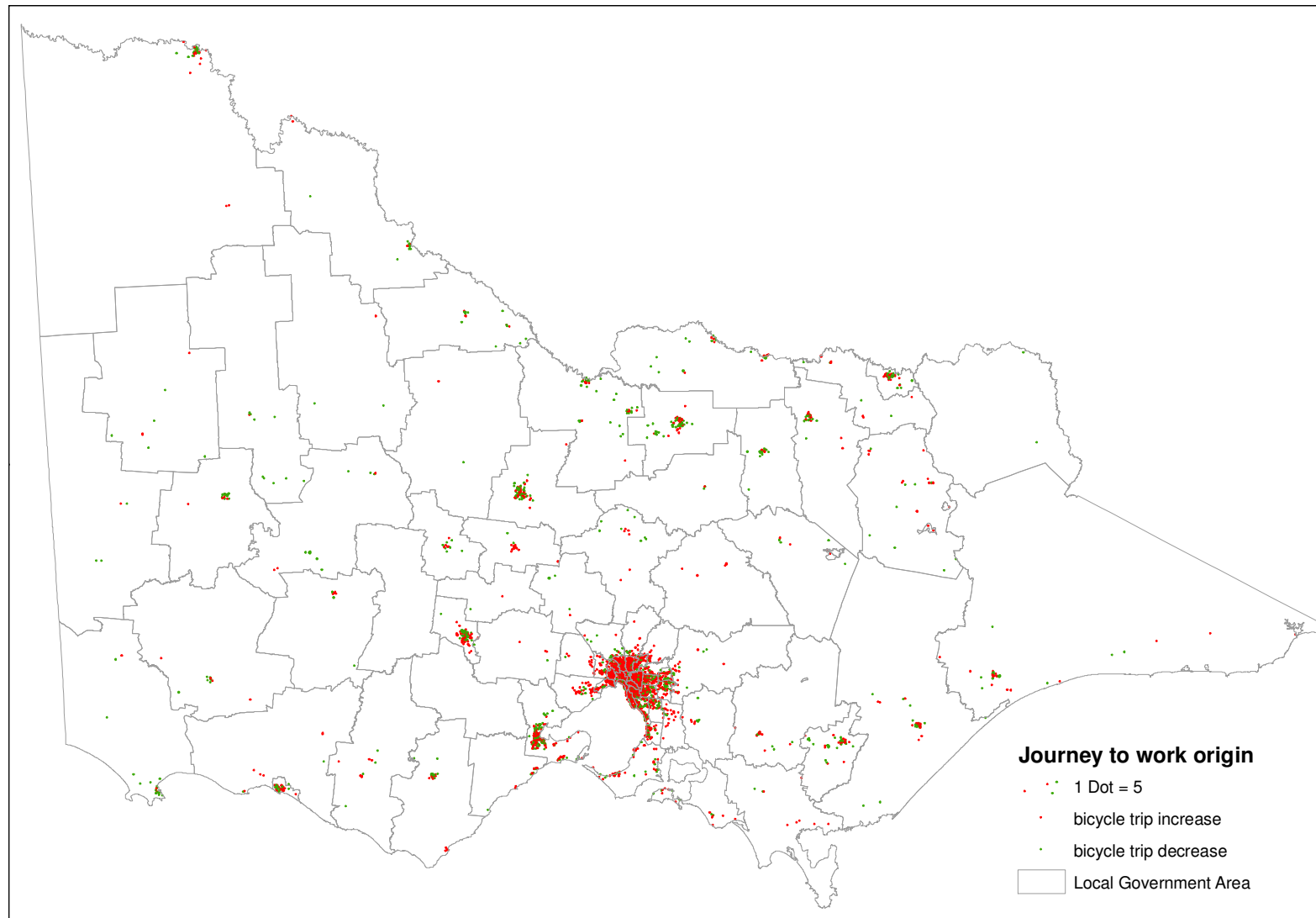


Figure 22: Change of origins of journey to work by bicycle, Victoria 2001-2011

Figure 23 and Figure 24 show the destinations of journey to work by bicycle in 2011 in the MSD and Victoria respectively. Most bicycle trips in the MSD went to the City of Melbourne and some inner suburbs. Significant numbers of bicycle trips also went to the universities in Clayton and Bundoora.

For the rest of Victoria, most bicycle trips went to town centres. As most bicycle trips also came from the town centres, this means most bicycle trips travelled within the town centres.

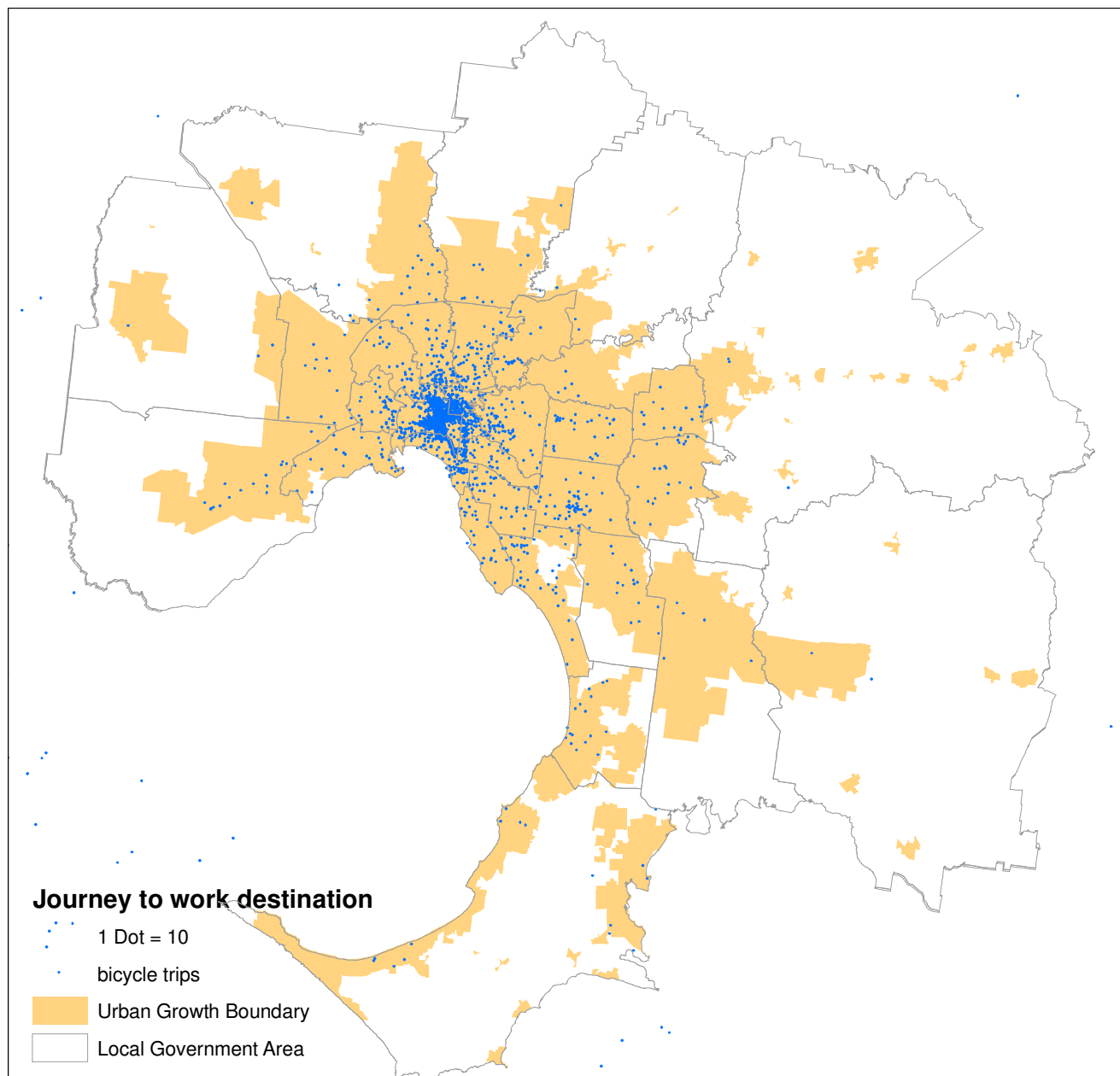


Figure 23: Destinations of journey to work by bicycle, Melbourne Statistical Division 2011

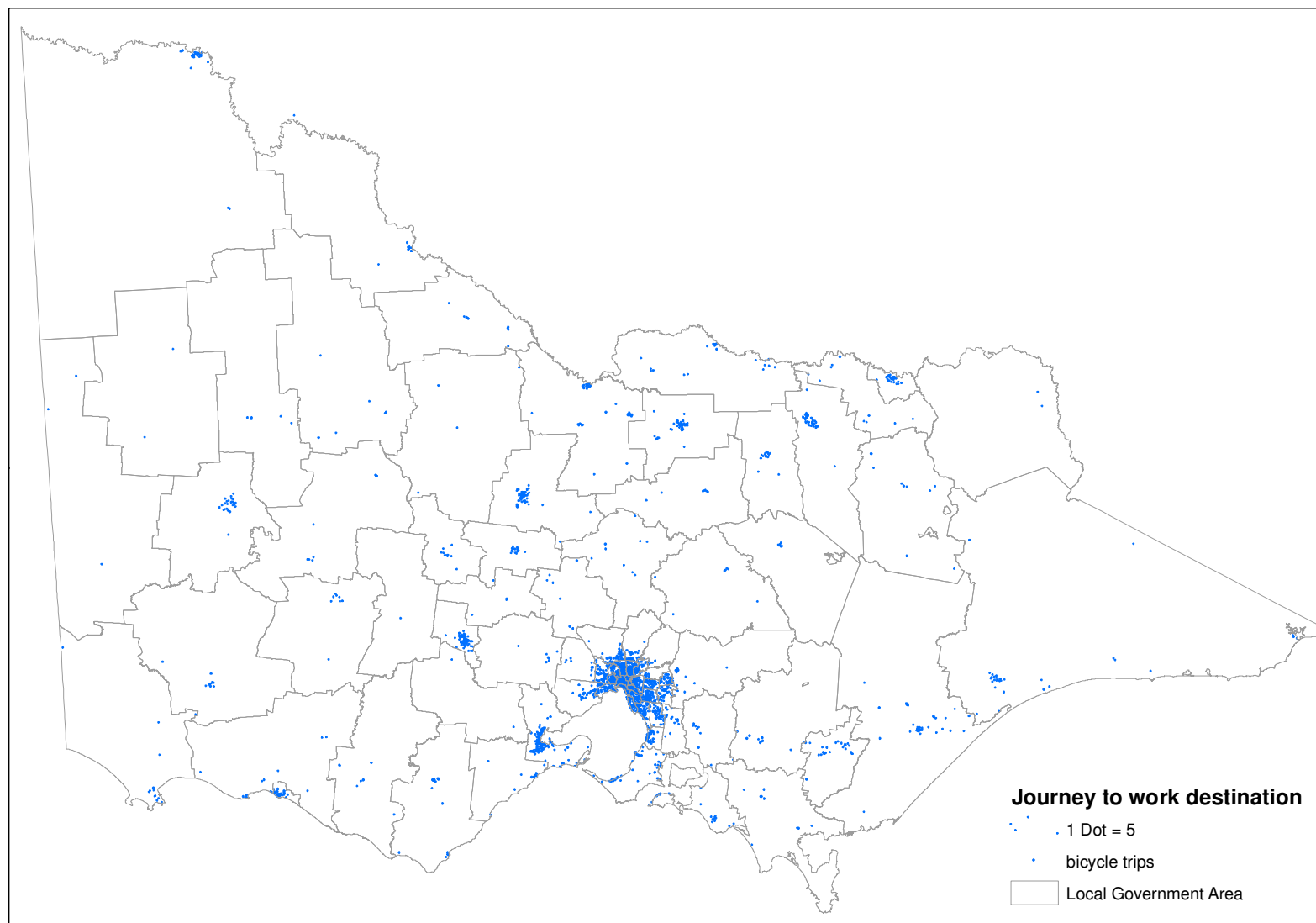


Figure 24: Destinations of journey to work by bicycle, Victoria 2011

Figure 25 shows the change of destination of journey to work by bicycle between 2001 and 2011 in the MSD. Most of the increase was in the City of Melbourne. There were also significant increase in bicycle trips to some inner suburbs, such as Fitzroy and Collingwood.

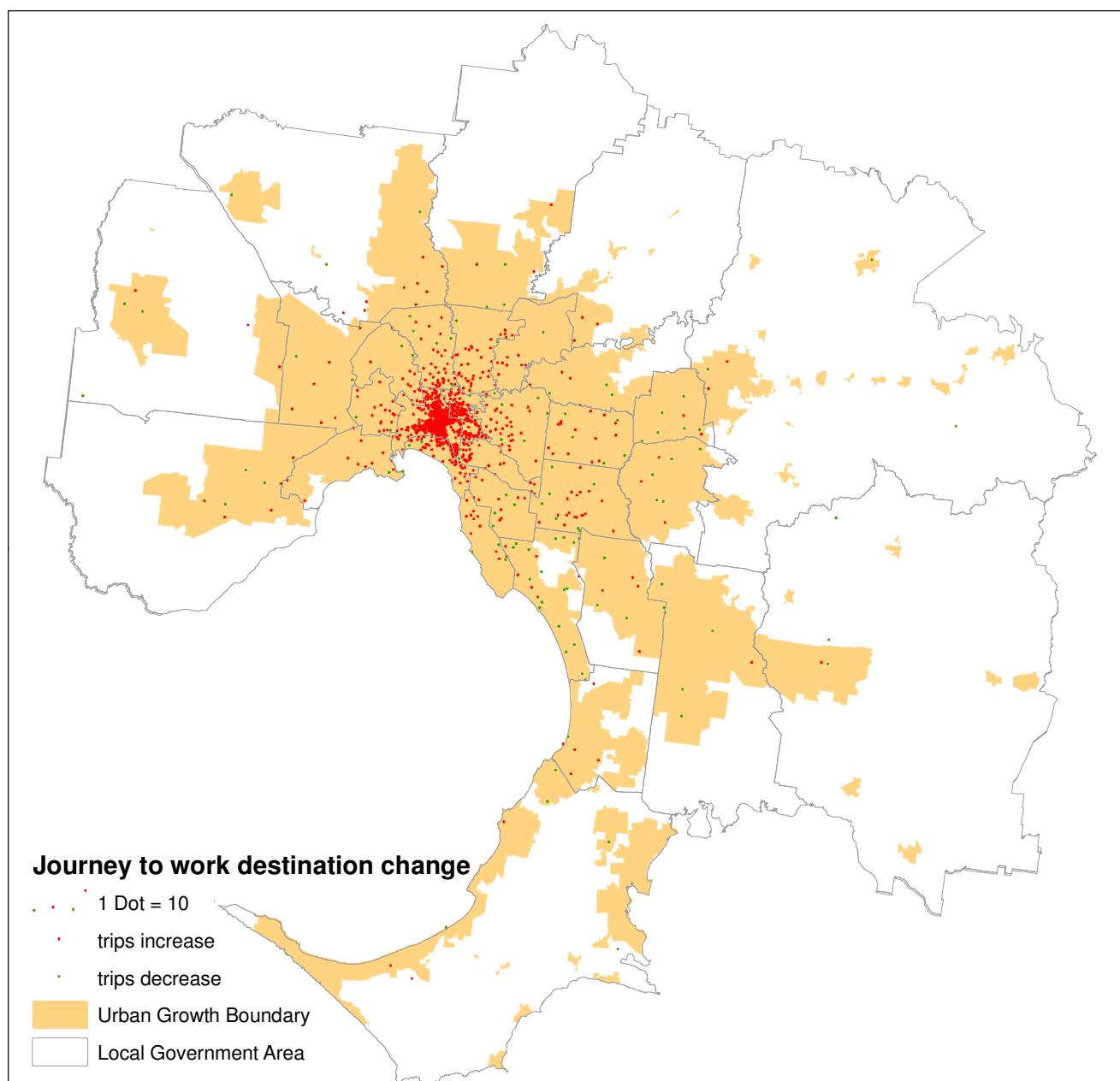


Figure 25: Change of destinations of journey to work by bicycle, Melbourne Statistical Division 2001-2011

2.5 Walk

Figure 26 and Figure 27 show the origins of journey to work by walk in 2011 in the MSD and Victoria respectively. Most of the walk trips in the MSD came from the City of Melbourne and inner suburbs. Elsewhere in the MSD, there were also significant numbers of walk trips in Clayton, Box Hill, Yallambie and HMAS Cerberus. The walk trips in the latter two suburbs came mainly from the military facilities established there.

Most of the walk trips in the rest of Victoria occurred in town centres. However, significant numbers of walk trips dispersed over the country area. Some of these trips would be from farmers walking to work to their farms and walking within smaller country towns where employment is often very close by.

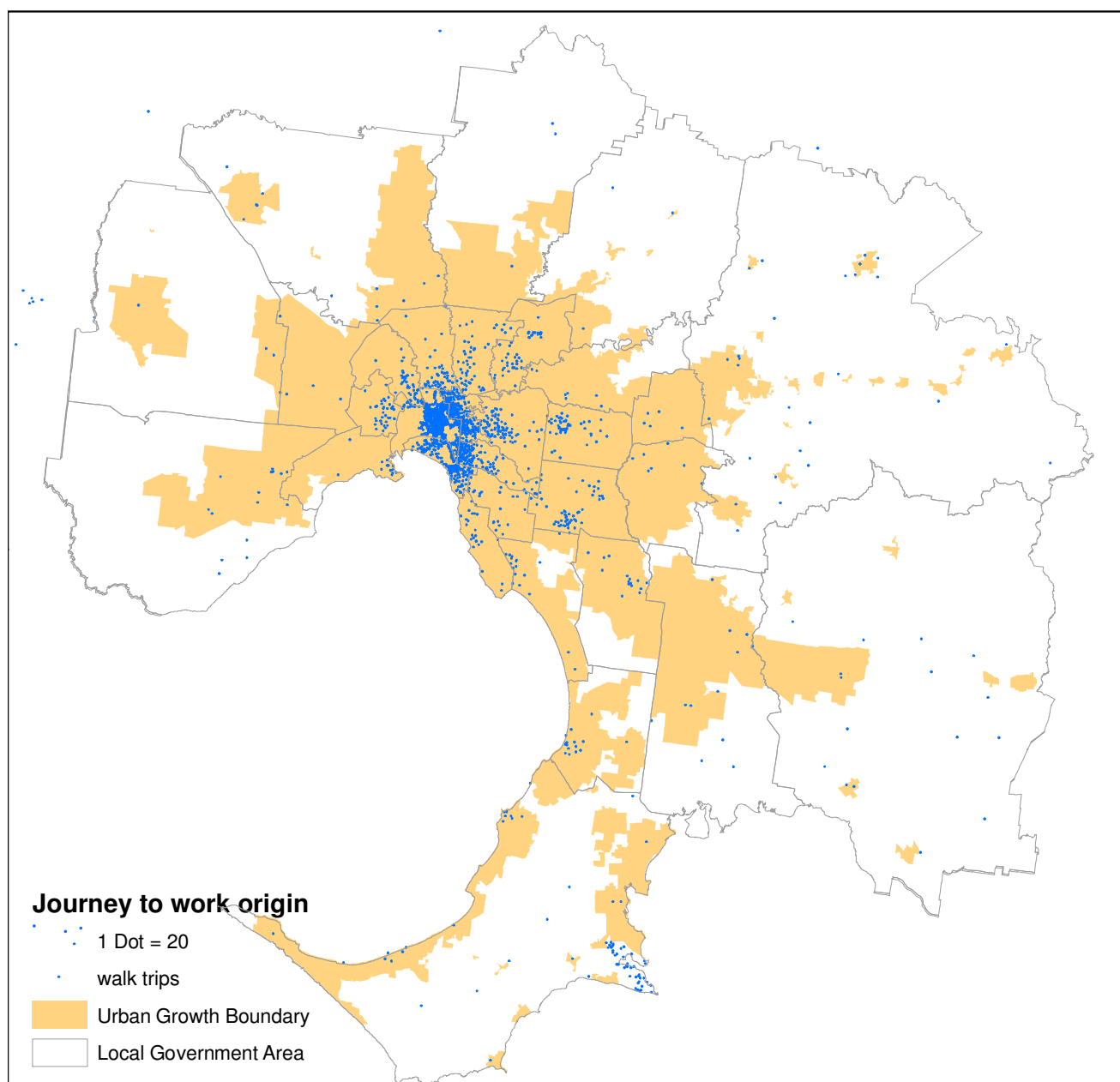


Figure 26: Origins of journey to work by walk, Melbourne Statistical Division 2011

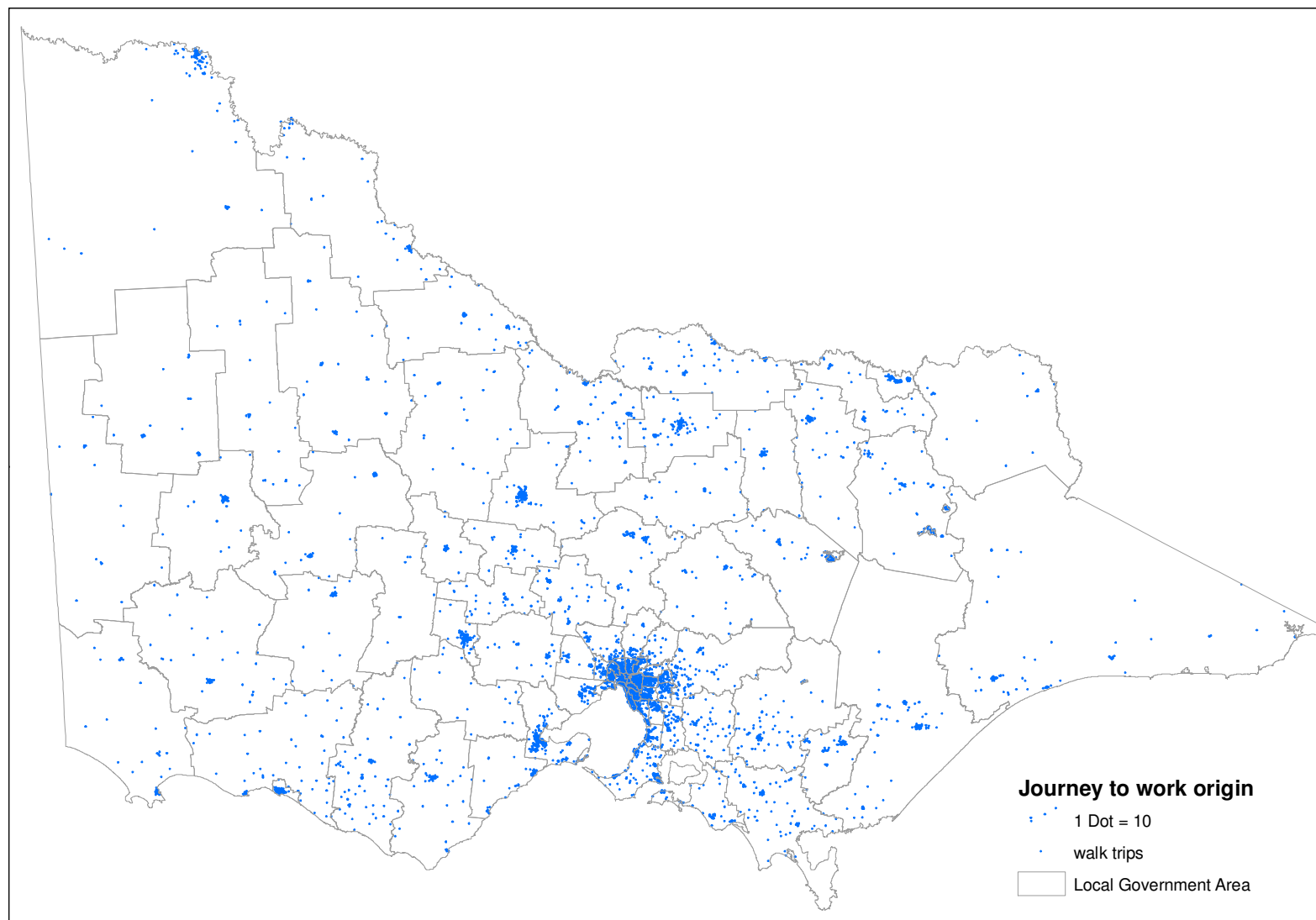


Figure 27: Origins of journey to work by walk, Victoria 2011

Figure 28 and Figure 29 show the change of origins of journey to work by walk between 2001 and 2011 in the MSD and Victoria respectively. Most of the increases in walk trips occurred in the City of Melbourne and some inner suburbs.

For the rest of Victoria, walk trips generally increased in the town centres but decreased in areas outside the town centres. This indicates many people who used to walk to work in rural areas may have moved to town centres in the last ten years or so.

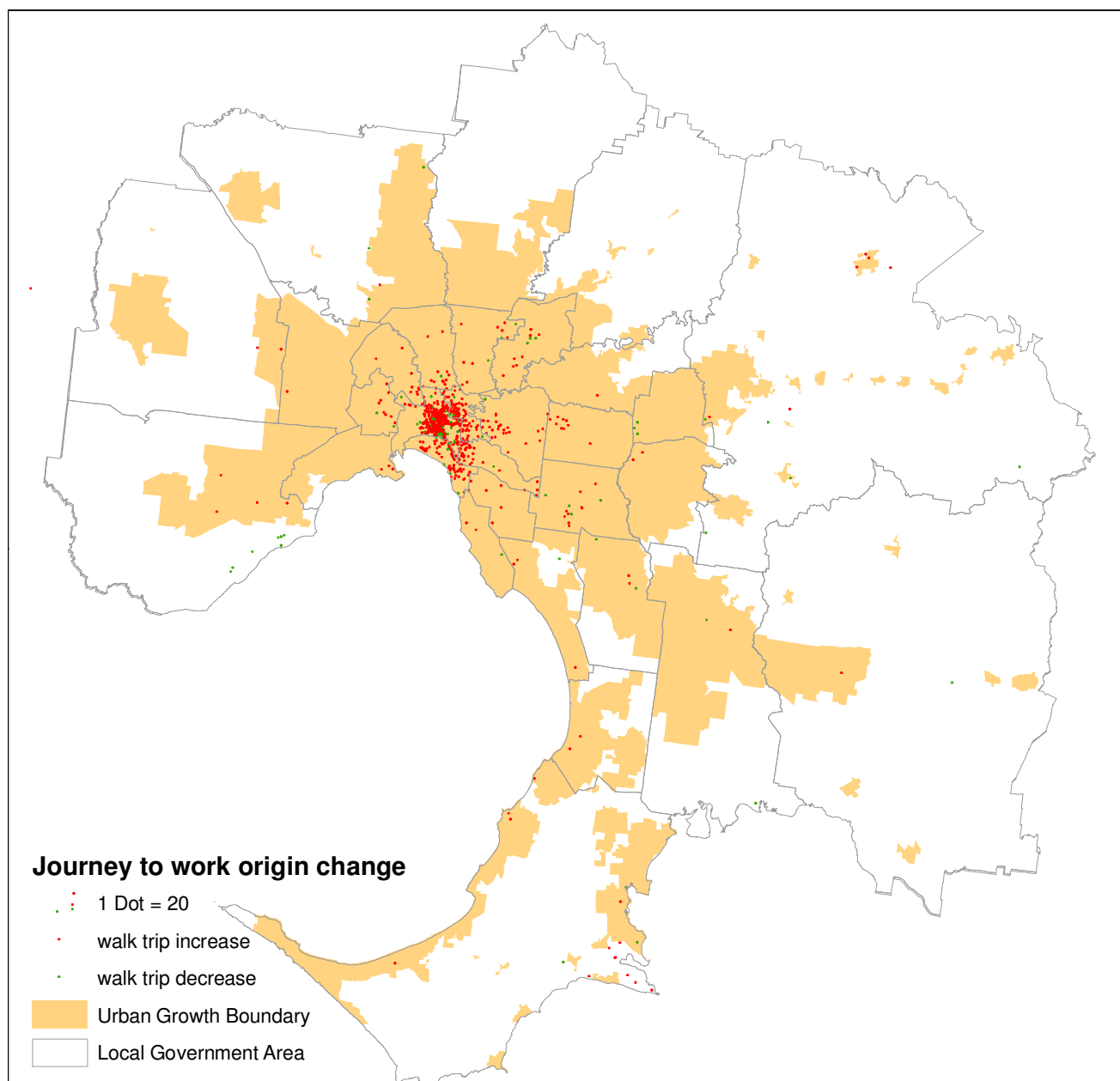


Figure 28: Change of origins of journey to work by walk, Melbourne Statistical Division 2001-2011

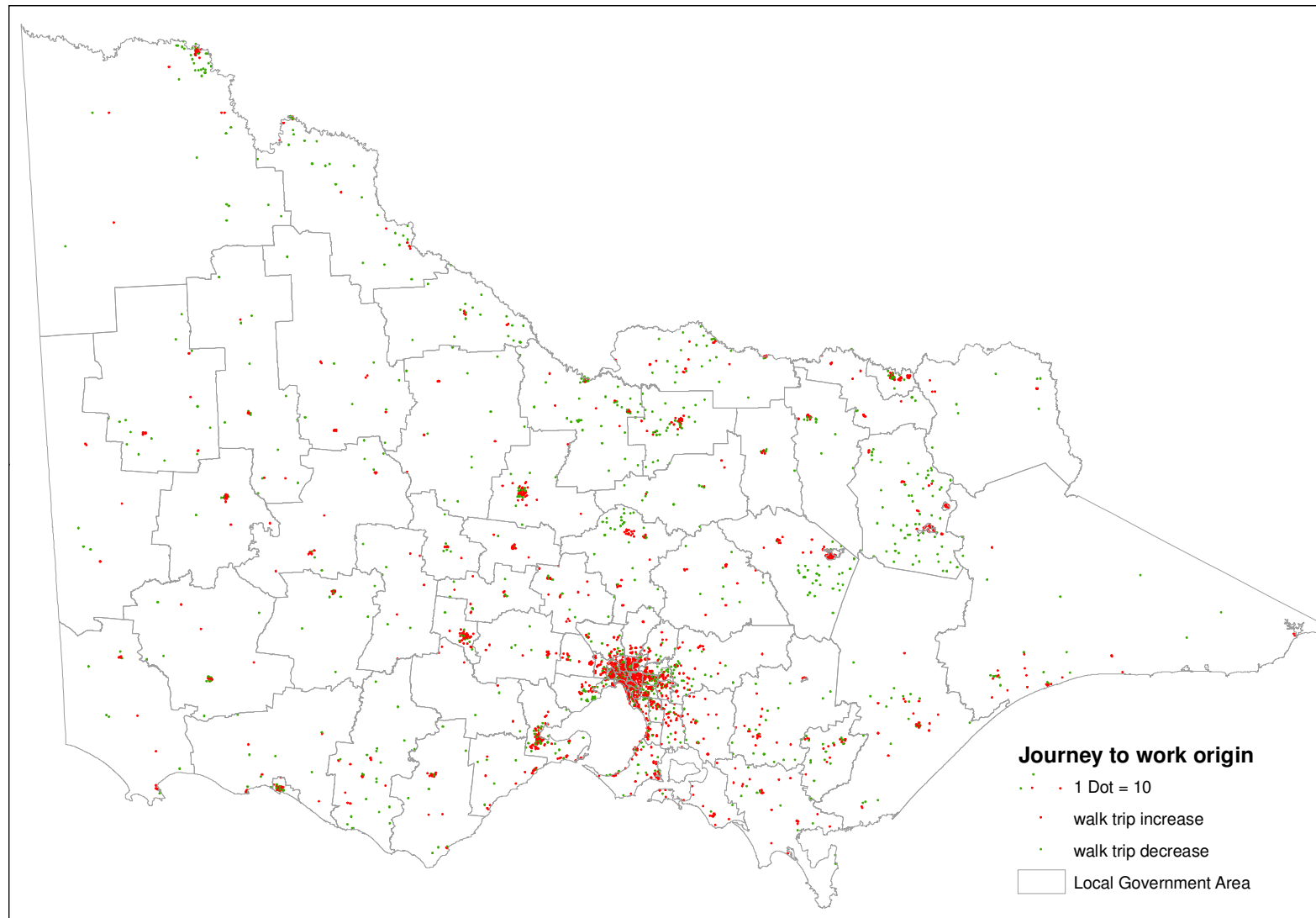


Figure 29: Change of origins of journey to work by walk, Victoria 2001-2011

Figure 30 and Figure 31 show the destinations of journey to work by walk in 2011 in the MSD and Victoria respectively. Most of the walk trips in the MSD went to the City of Melbourne and some inner suburbs. Compared with the walk trip origins, the footprint of walk trip destinations in the inner suburbs was smaller. This indicates many people walked to work from inner suburbs to the City of Melbourne. Elsewhere in the MSD, HMAS Cerberus was both a significant origin and destination of walk trips. Although some parts of Box Hill, Clayton and Yallambie were significant walk trip origins, they were less significant as walk trip destinations, indicating some people living there walked to neighbouring or other parts of the suburbs to work.

For the rest of Victoria, the distribution of walk trip destinations was similar to that of walk trip origins, as walk trips generally travel short distances.

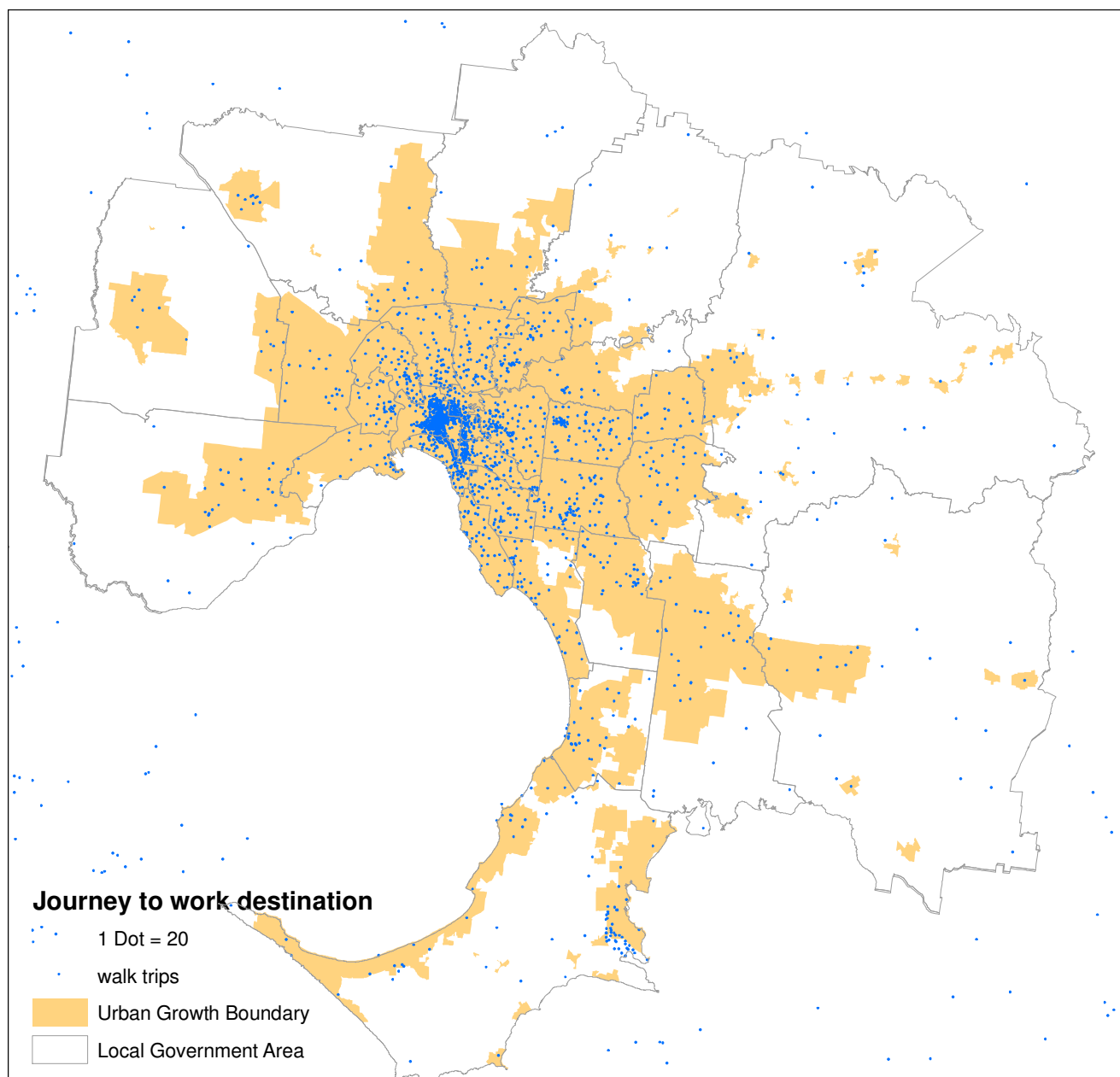


Figure 30: Destinations of journey to work by walk, Melbourne Statistical Division 2011

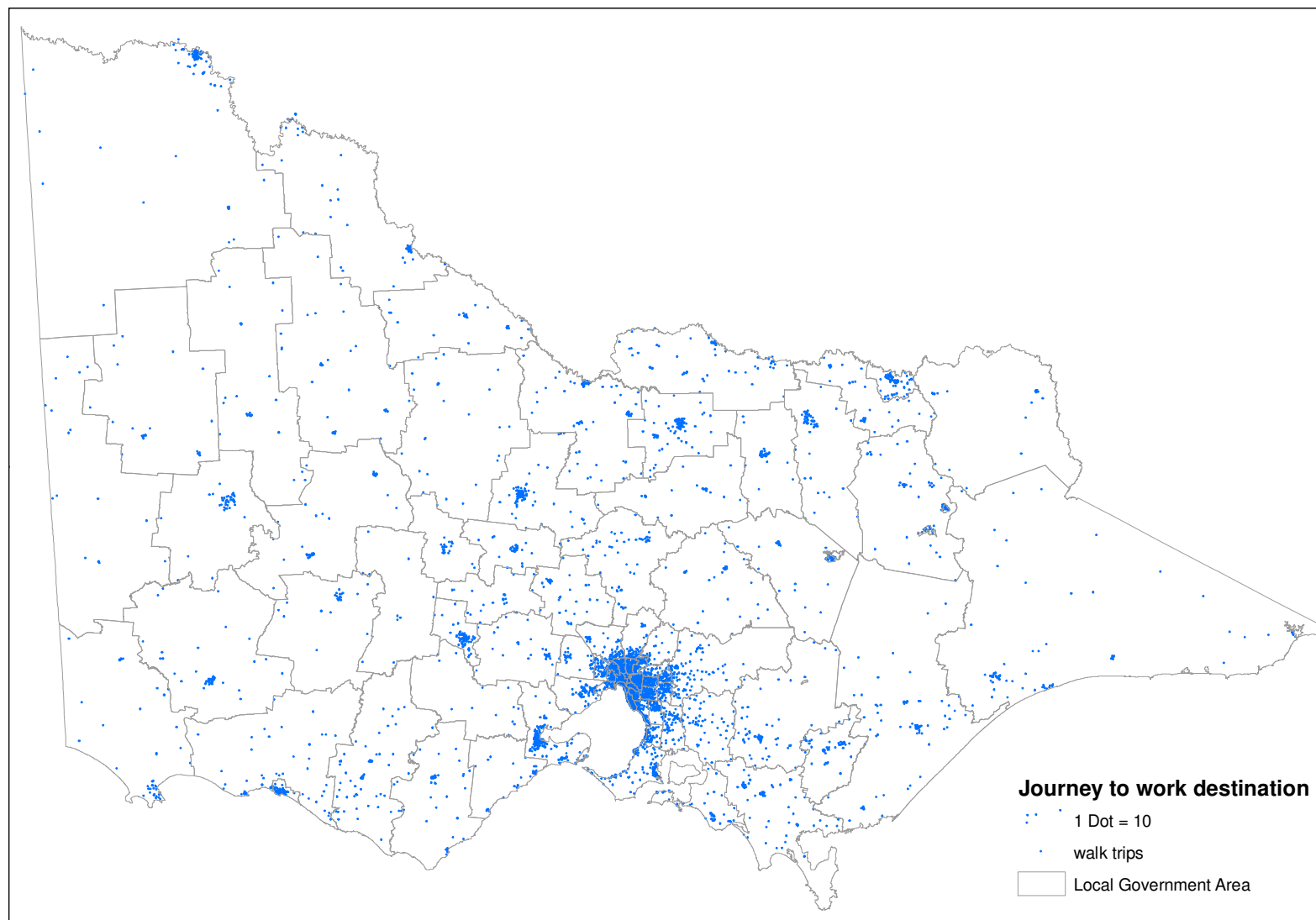


Figure 31: Destinations of journey to work by walk, Victoria 2011

Figure 32 shows the change of destinations of journey to work by walk between 2001 and 2011 in the MSD. The main change was the increase of walk trips to the City of Melbourne, particularly CBD, Docklands and Southbank. This largely came from the increase in persons living in these and nearby areas. Walking accounts for the majority work travel to the CBD for City of Melbourne residents.

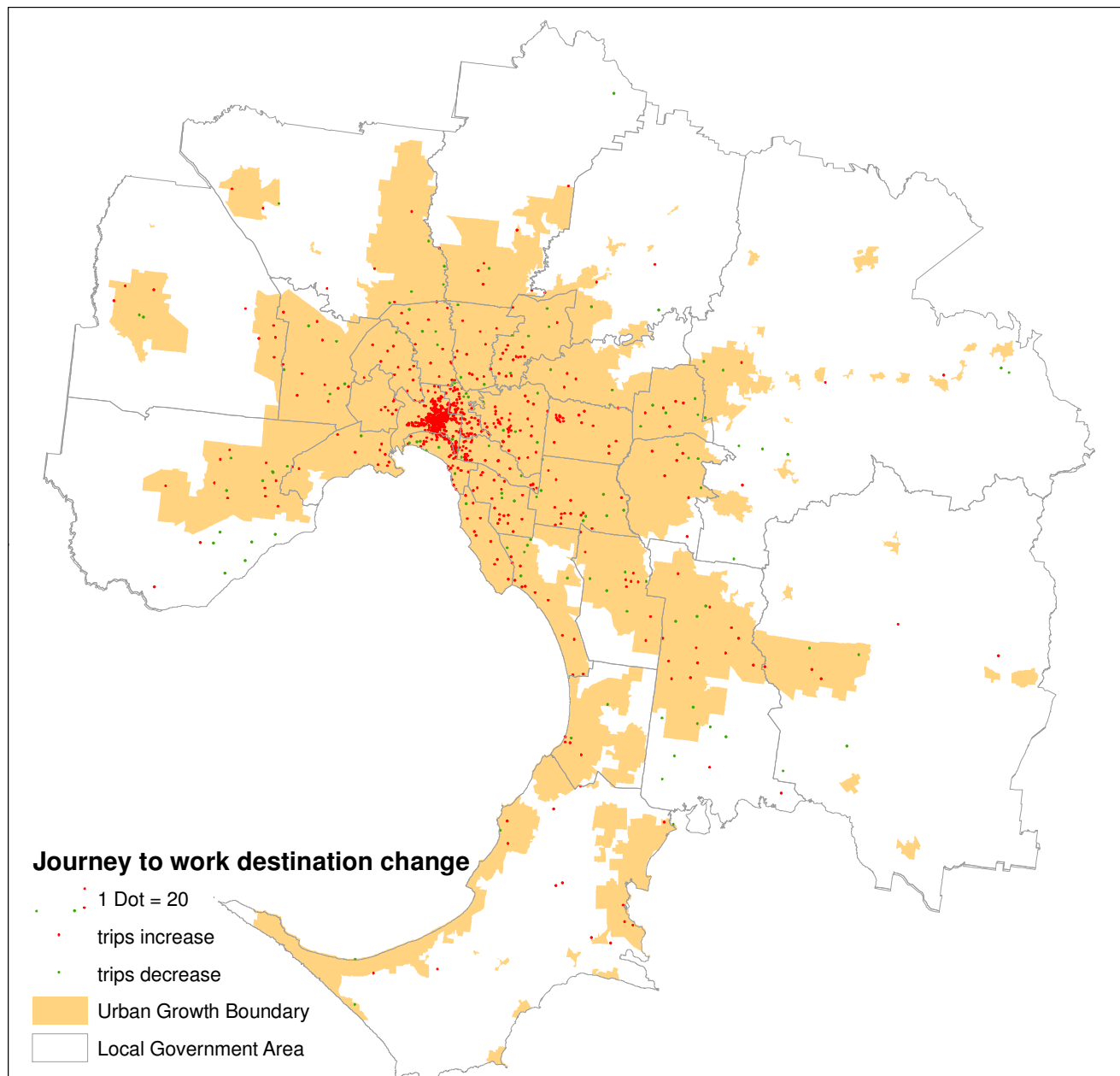


Figure 32: Change of destinations of journey to work by walk, Melbourne Statistical Division 2001-2011

2.6 Work at Home

Although people working at home do not travel to work, it is interesting to know where those people were located. Figure 33 and Figure 34 show the work at home locations in 2011 in the MSD and Victoria respectively. Most people working at home lived in the eastern and southern inner suburbs. On the other hand, people living in the outer suburbs, other than the Mornington Peninsula, who often need to travel for a long distance to work, were less likely to work at home.

For the rest of Victoria, the work at home locations were widely dispersed, although some were concentrated at town centres, such as Geelong and Ballarat. In the rest of Victoria 43% of those working at home were farmers.

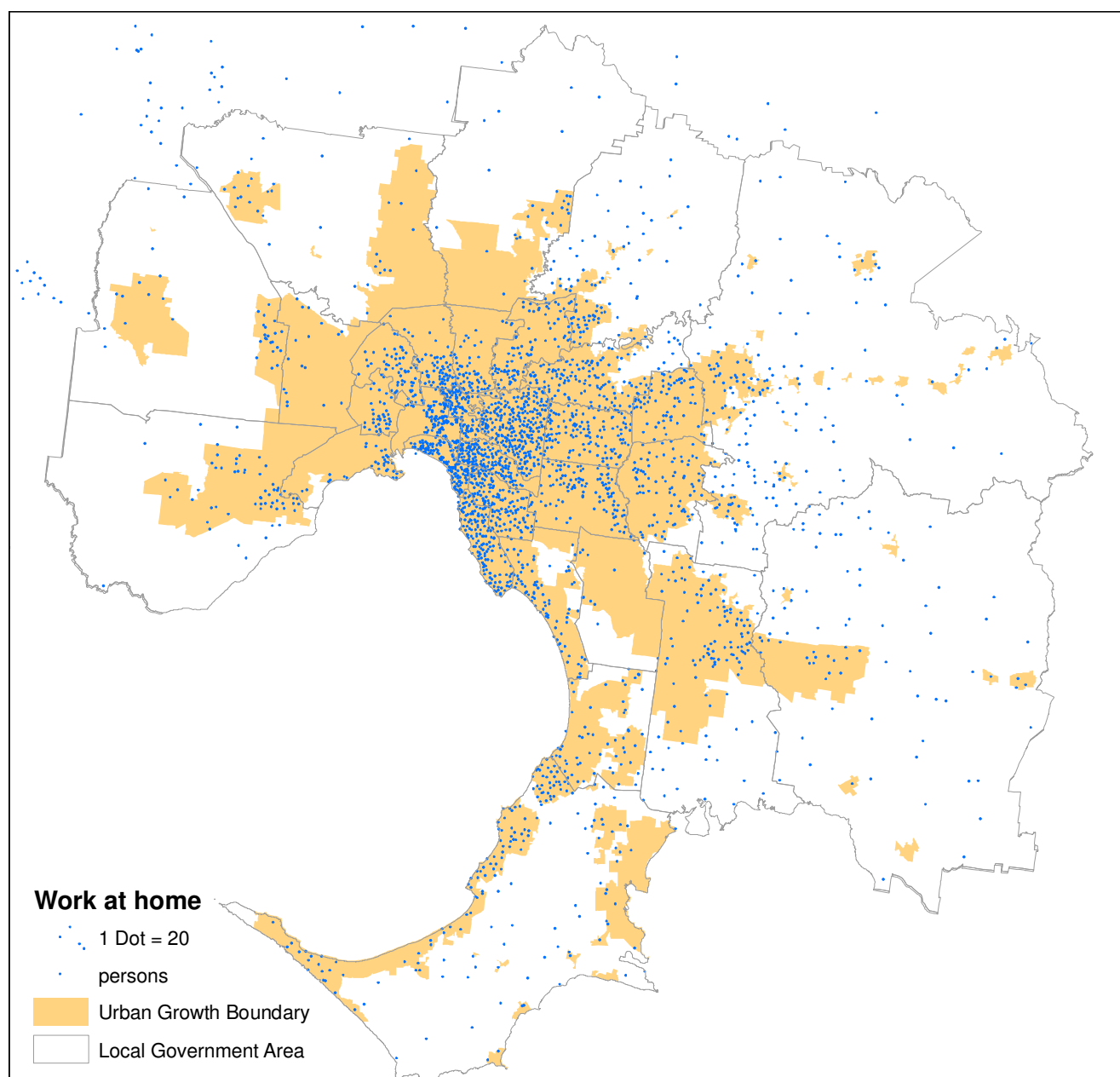


Figure 33: Work at home locations, Melbourne Statistical Division 2011

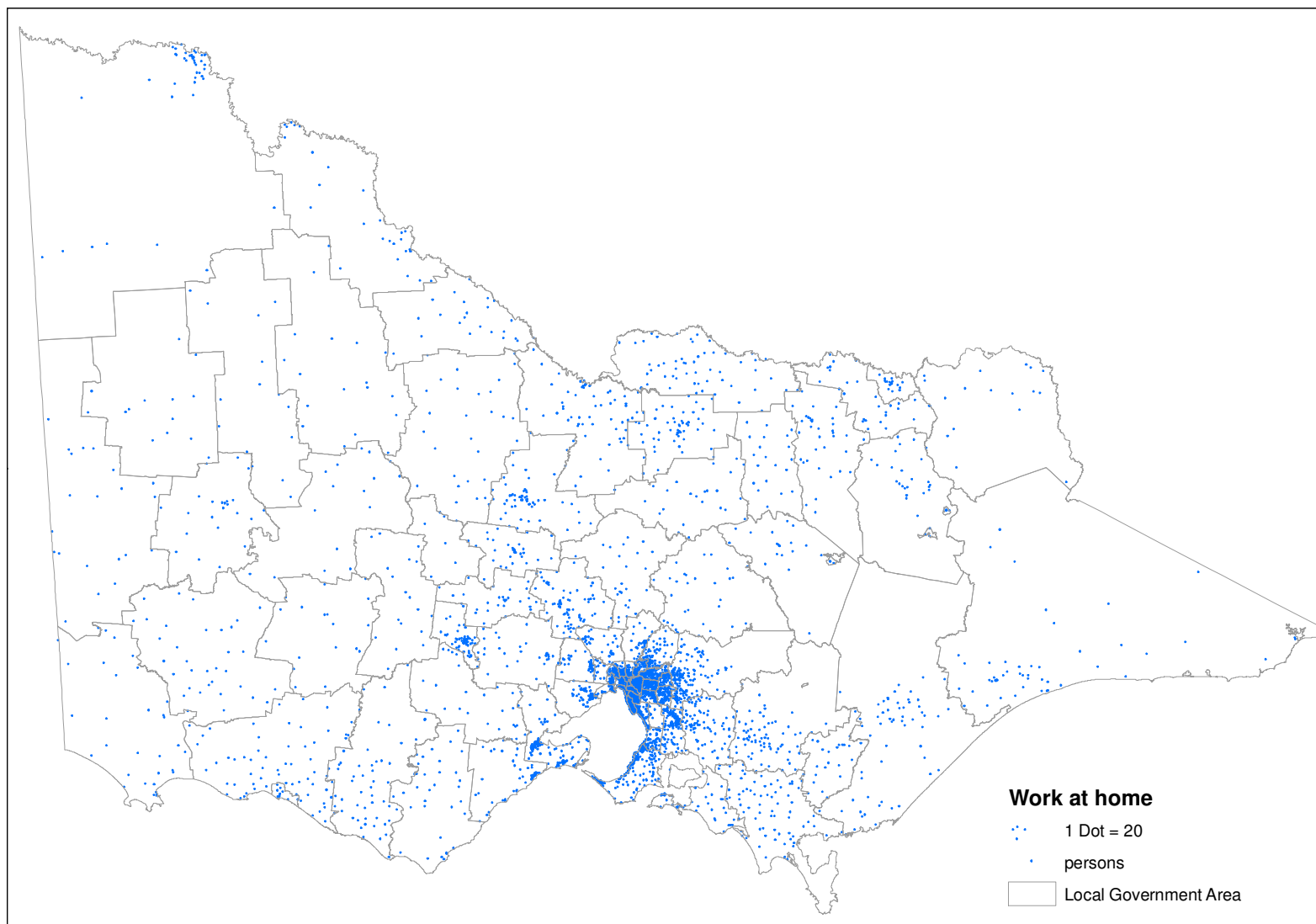


Figure 34: Work at home locations, Victoria 2011

Figure 35 and Figure 36 show the change of work at home locations between 2001 and 2011 in the MSD and Victoria respectively. Most of the increases in the MSD were in the City of Melbourne and the eastern and southern inner suburbs. Point Cook and Caroline Springs also had significant increases of people working at home, due mainly to the significant growth of population in those areas.

For the rest of Victoria, some town centres and the Alpine resorts had increases in the number of people working at home. However, for most rural areas, the number of people working at home declined.

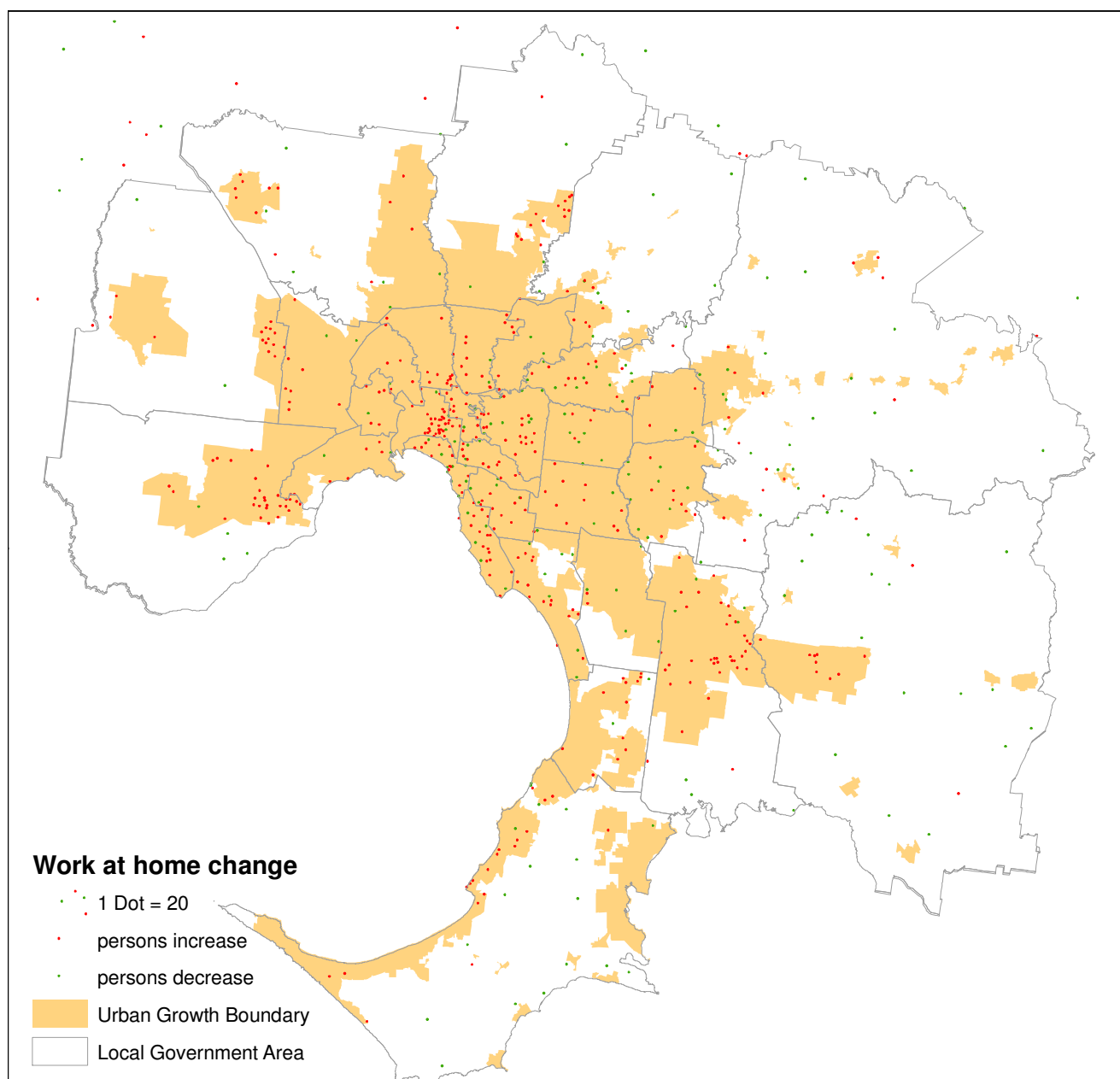


Figure 35: Change of work at home locations, Melbourne Statistical Division 2001-2011

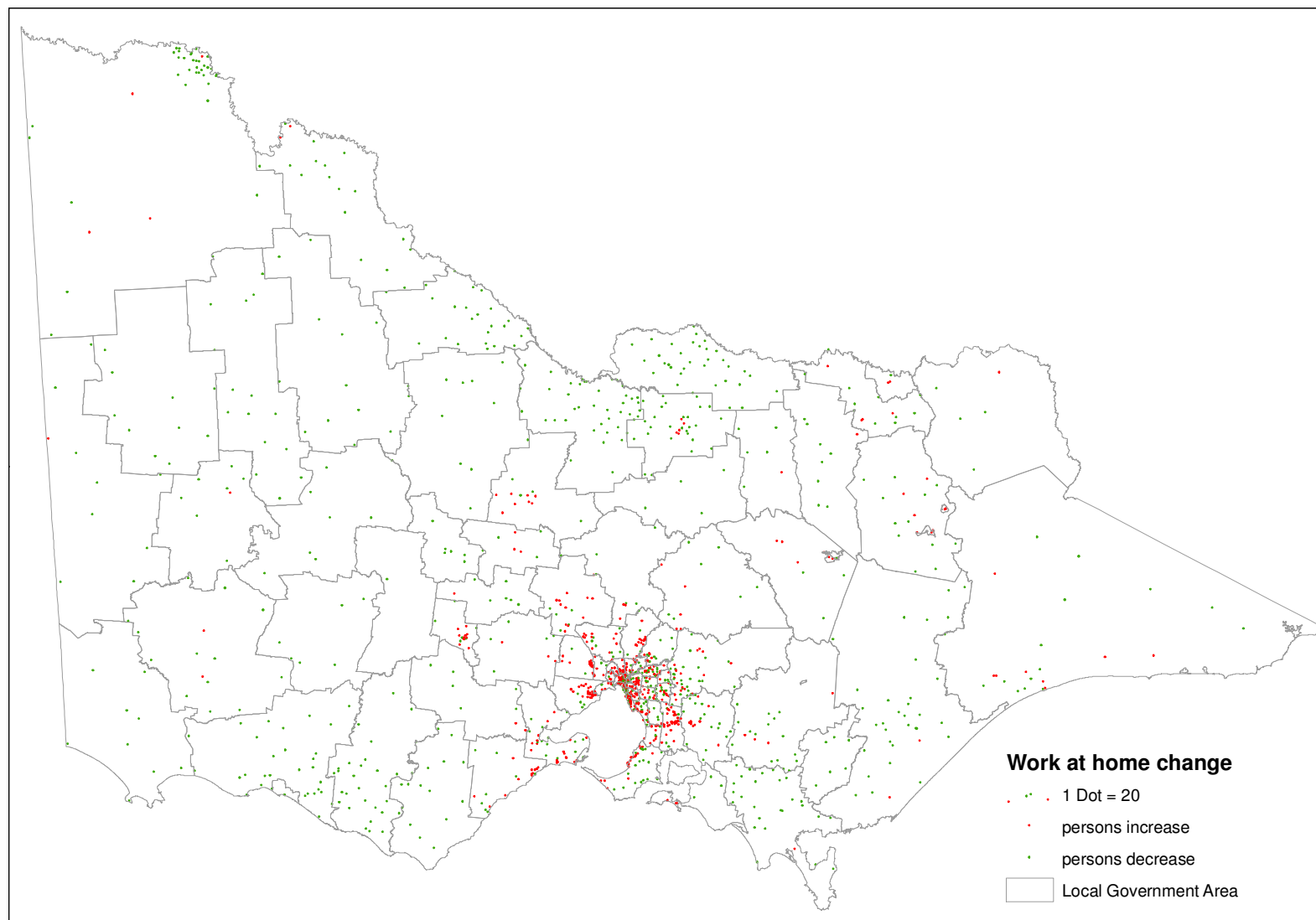


Figure 36: Change of work at home locations, Victoria 2001-2011

2.7 Did Not Go to Work

People who were employed and did not go to work on the Census day generally consisted of people who were on leave, worked part time or did shift work on other days. Figure 37 and Figure 38 show the locations of employees not working on the Census day in 2011 in the MSD and Victoria respectively. The locations dispersed through the urban growth boundary and followed the general population distribution. However, a significant number of people were located in Melbourne CBD, some of them might stay in the hotels there during recreational leave.

For the rest of Victoria, employees who did not go to work were generally located at town centres. A significant number of people also stayed at the Alpine resorts, presumably mostly on leave.

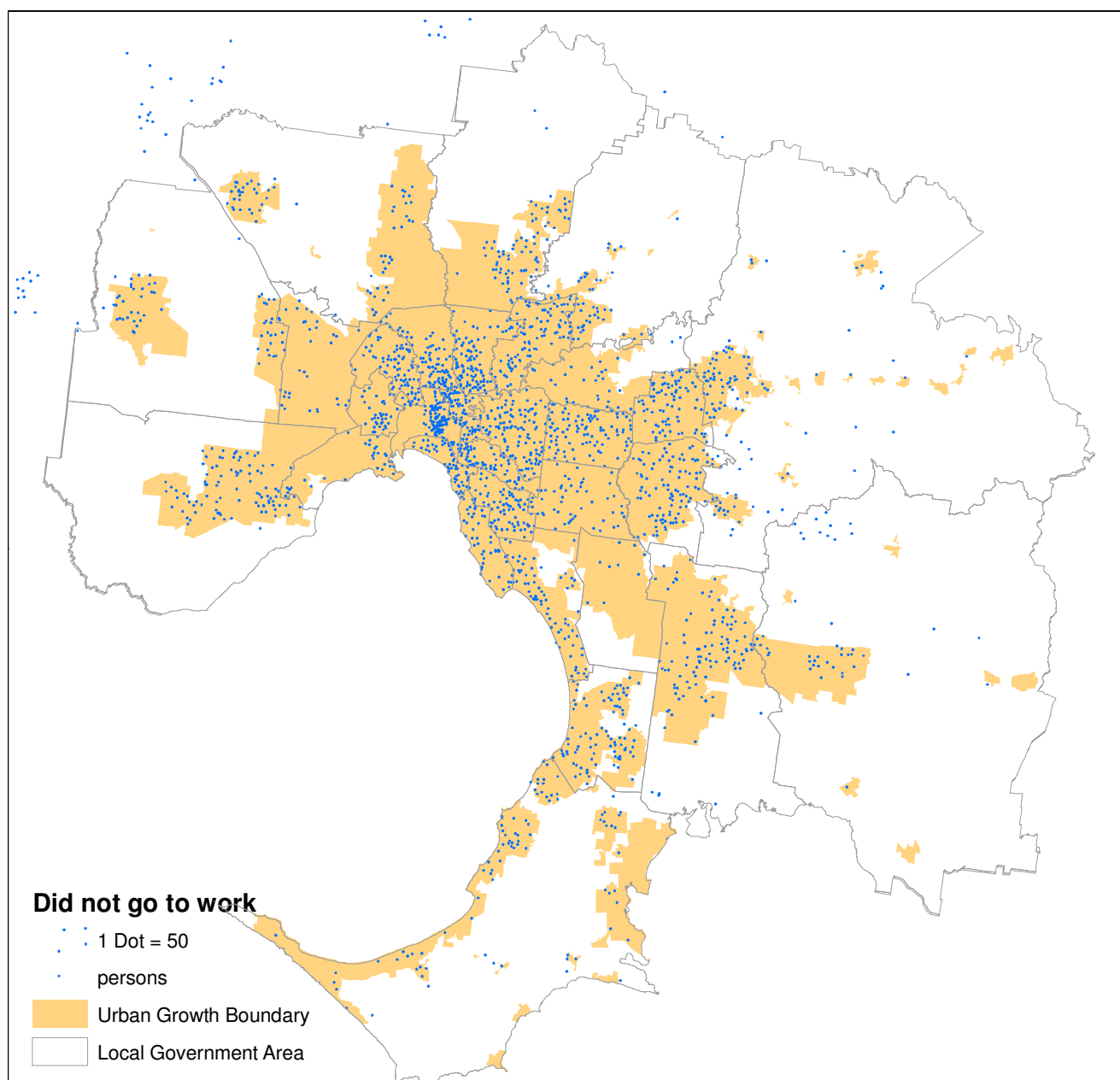


Figure 37: Locations of employees not working on the Census day, Melbourne Statistical Division 2011

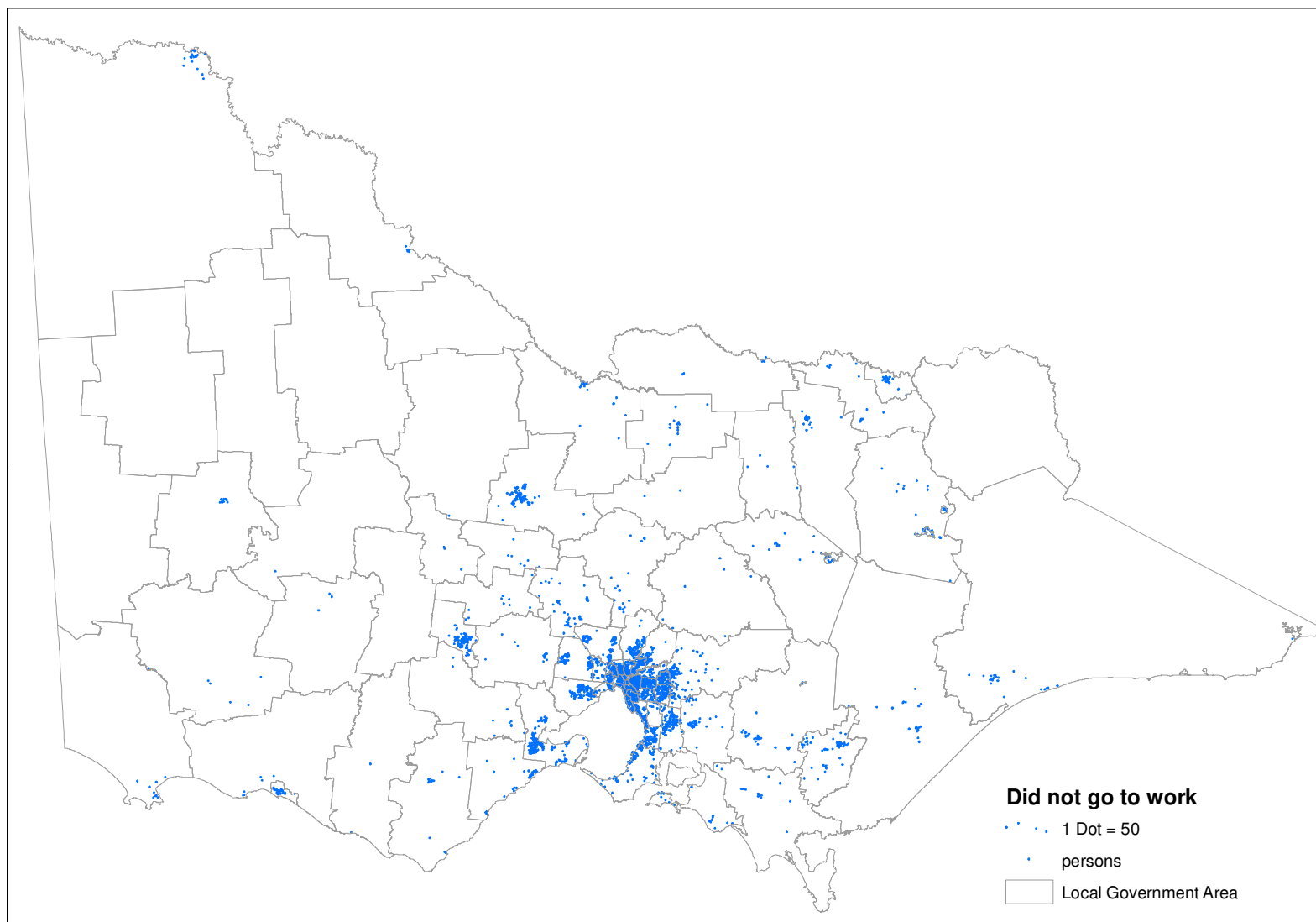


Figure 38: Locations of employees not working on the Census day, Victoria 2011

Figure 39 and Figure 40 show the change of locations of employees not working on the Census day between 2001 and 2011 in the MSD and Victoria respectively. The increase in the MSD was mainly in the City of Melbourne and the growth areas of Wyndham, Melton, Hume, Whittlesea, Casey and Cardinia. This reflects the increases of population in those areas and the number of workers staying in the Melbourne CBD for a holiday.

For the rest of Victoria, there were areas of increase and areas of decrease of employees who did not go to work, particularly around major town centres. Overall, there was an increase of employees who did not go to work in the rest of Victoria. Some of the increase may be due to increases of people staying at the rural towns for a holiday but may reflect a shift to part time employment.

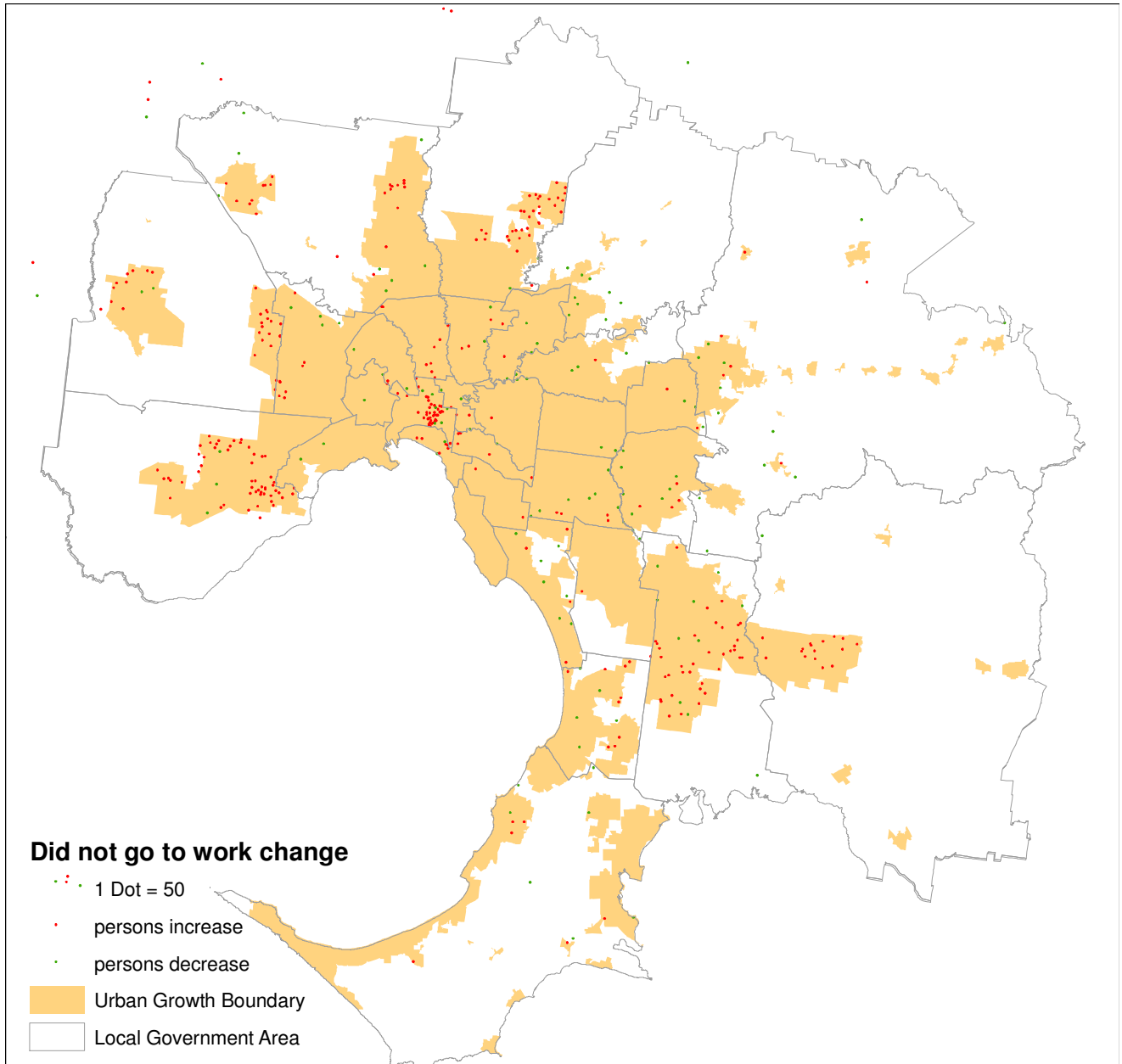


Figure 39: Change of locations of employees not working on the Census day, Melbourne Statistical Division 2001-2011

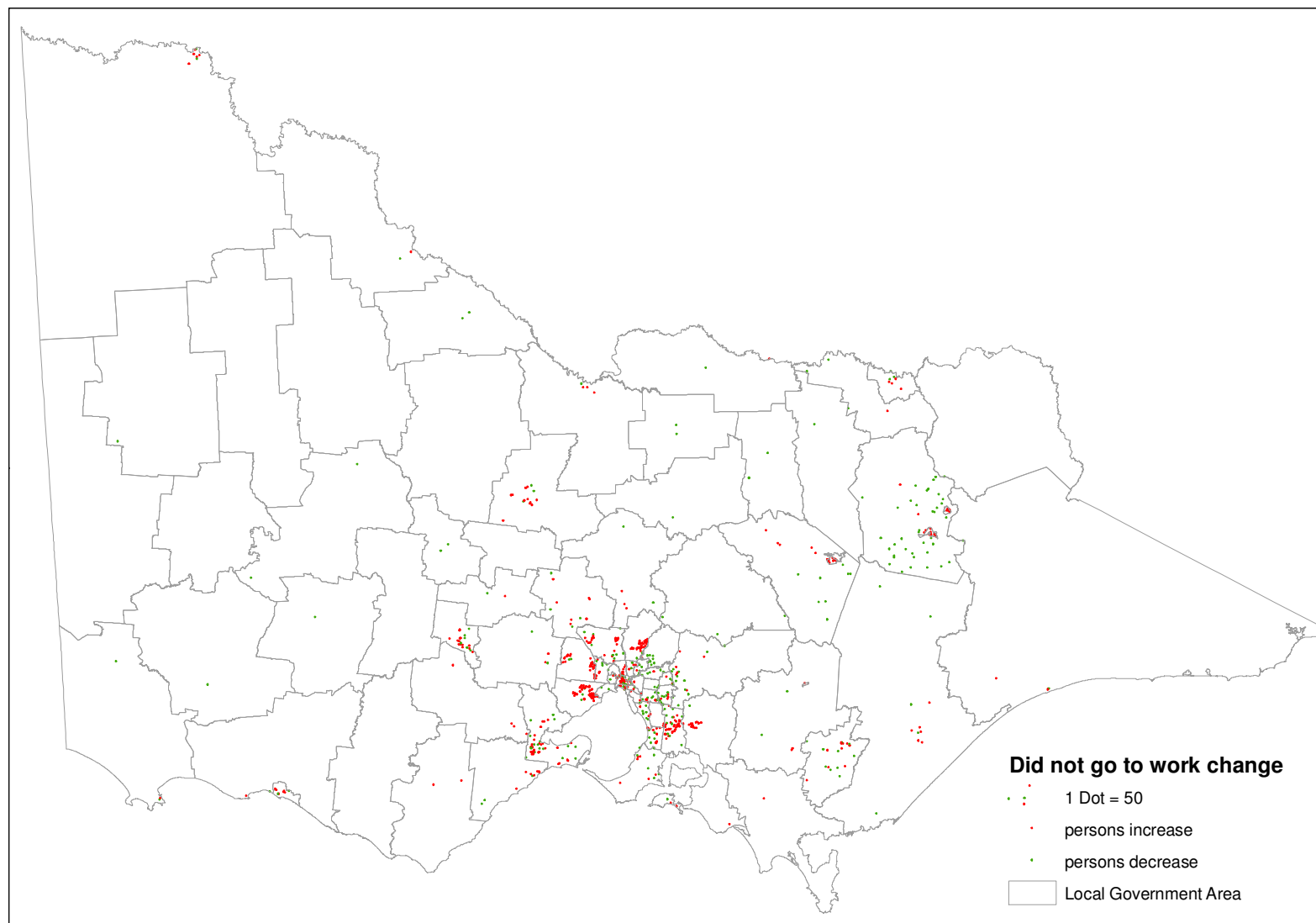


Figure 40: Change of locations of employees not working on the Census day, Victoria 2001-2011

3 Desire Lines of Travel

3.1 Internal Trips

Figure 41 and Figure 42 show the number and percentage of internal work trips within each LGA in 2011 in the MSD and rest of Victoria respectively. Most people in the MSD needed to travel outside their LGA to work. Only Melbourne and Mornington Peninsula had about equal numbers of internal and external work trips.

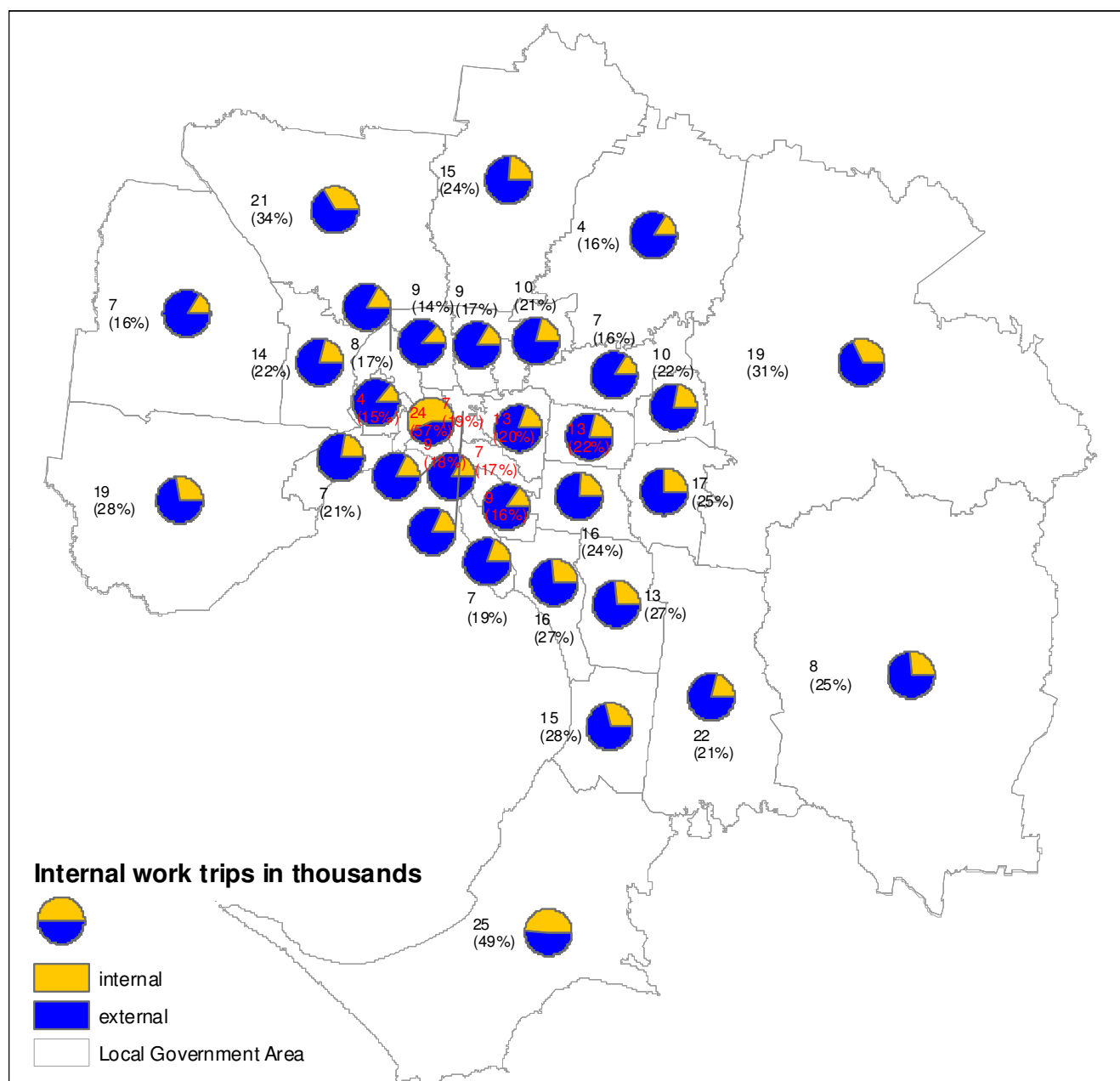


Figure 41: Internal work trips (all modes) within local government areas, Melbourne Statistical Division 2011

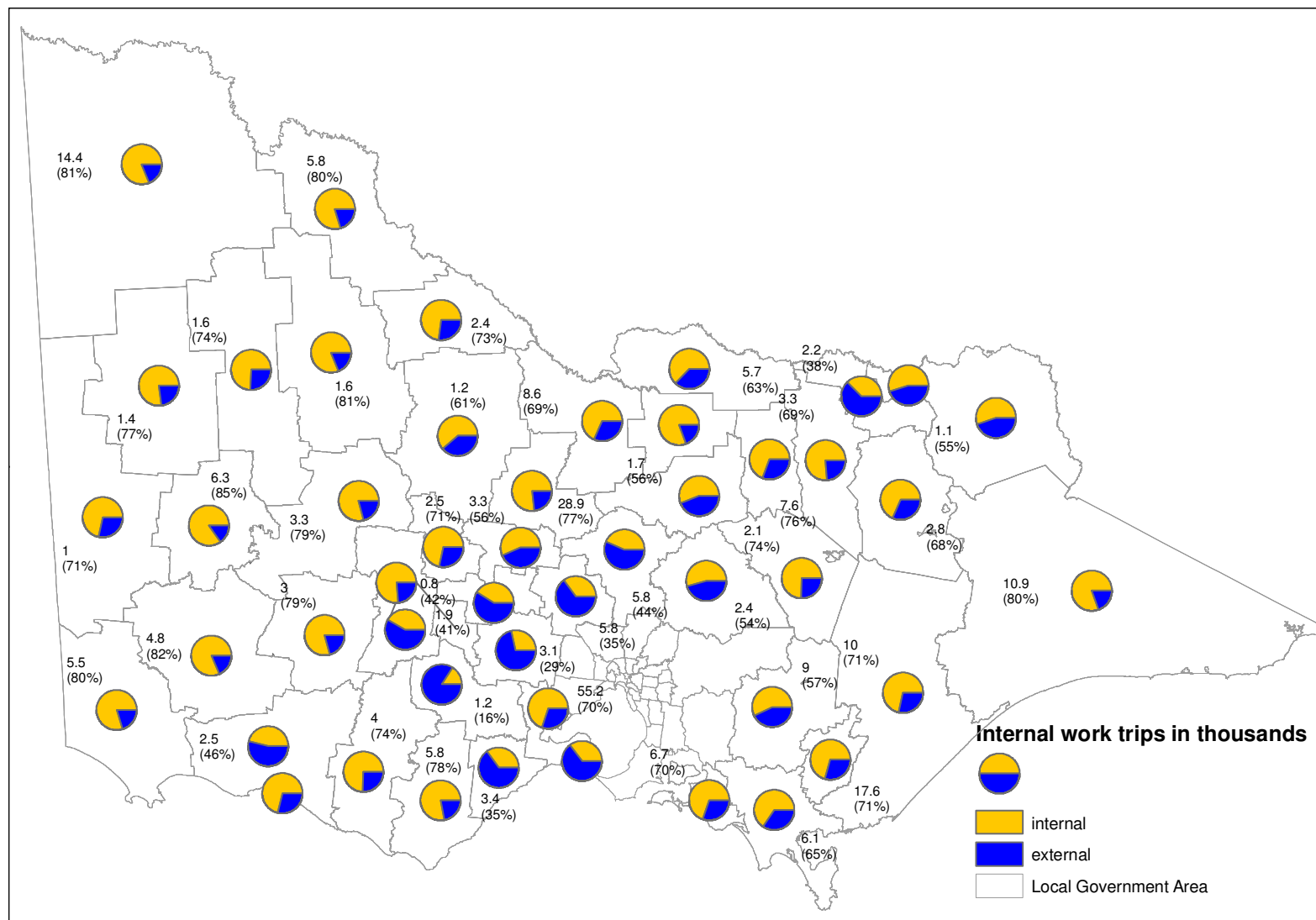


Figure 42: Internal work trips (all modes) within local government areas, rest of Victoria 2011

Conversely, work trips in most of the LGAs in the rest of Victoria were internal, with the notable exceptions of Golden Plains, Queenscliffe, Surf Coast, Indigo, Hepburn, Pyrenees, and Mayne, which all neighbour significant rural cities. Also, LGAs near the fringe of MSD, such as Moorabool and Macedon Ranges, had high proportion of external trips as many people would travel to the MSD or nearby rural cities to work.

Figure 43 and Figure 44 show the number and percentage of internal work trips within each LGA in 2001 in the MSD and rest of Victoria respectively. Generally, the numbers of internal trips in 2001 were higher than those in 2011. The pattern of internal/external trips, however, was similar to that in 2011. This means the travel behaviour, in term of internal/external trips, has not changed much between 2001 and 2011.

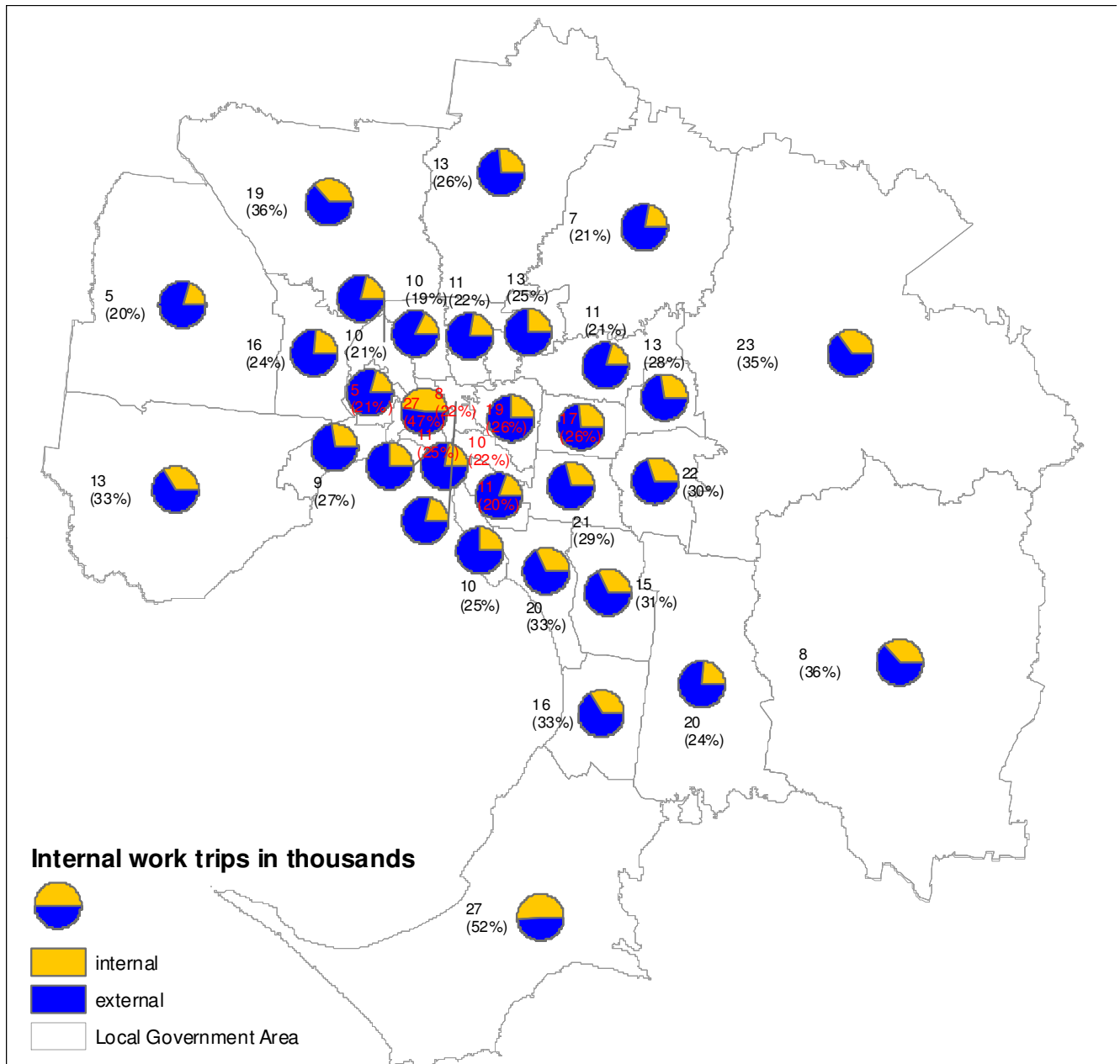


Figure 43: Internal work trips (all modes) within local government areas, Melbourne Statistical Division 2001

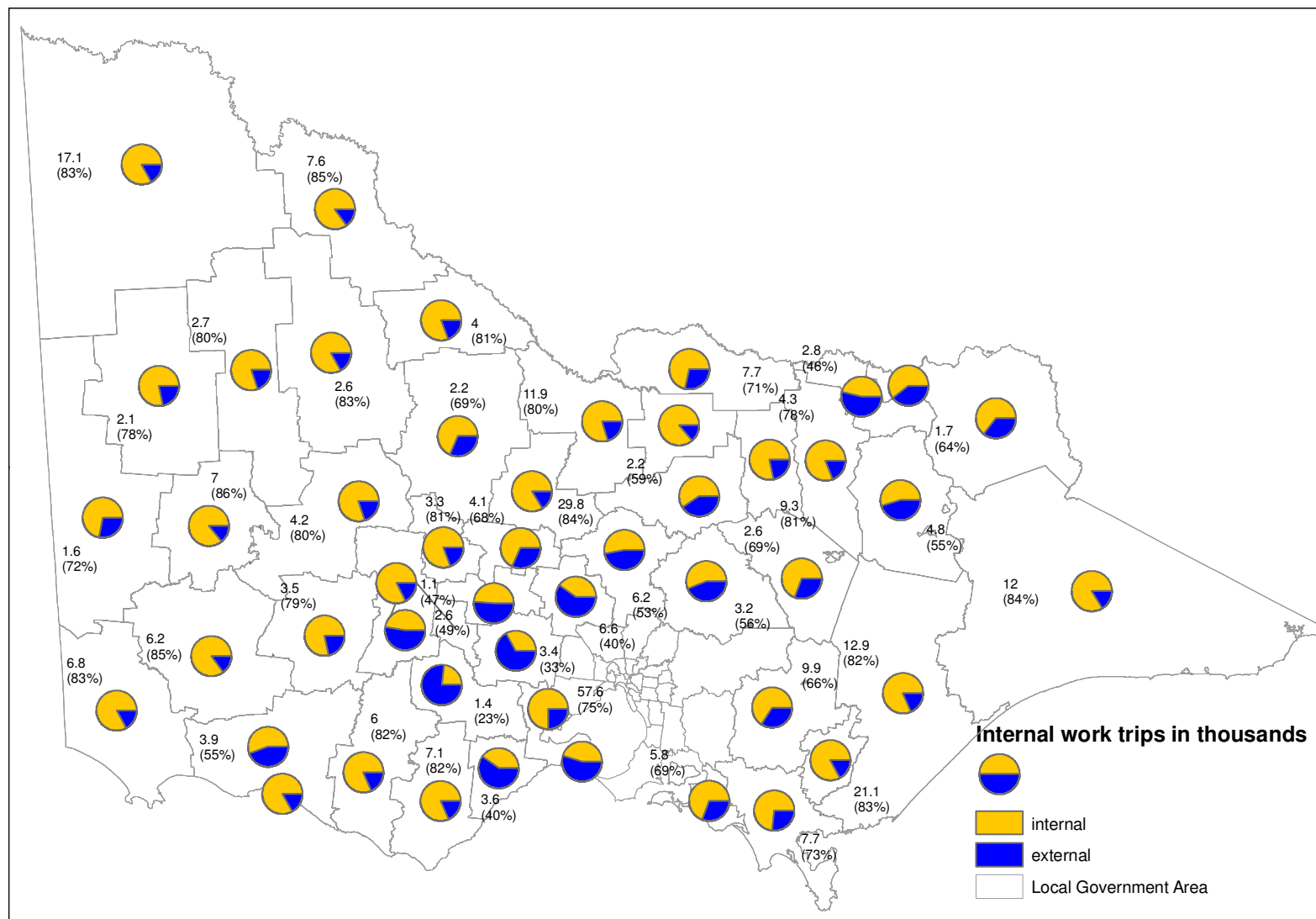


Figure 44: Internal work trips (all modes) within local government areas, rest of Victoria 2001

Figure 45 and Figure 46 show the split of internal and external work trips by mode in 2011 in the MSD and rest of Victoria respectively. Most of the work trips by public transport, private vehicle and bicycle in the MSD were external. On the other hand, most of the walk trips were internal as they were generally short trips. However internal private vehicle trips in larger area LGAs can be quite long and dispersed.

For the rest of Victoria, only public transport carried more external trips than internal trips. Trips by all other modes were mostly internal.

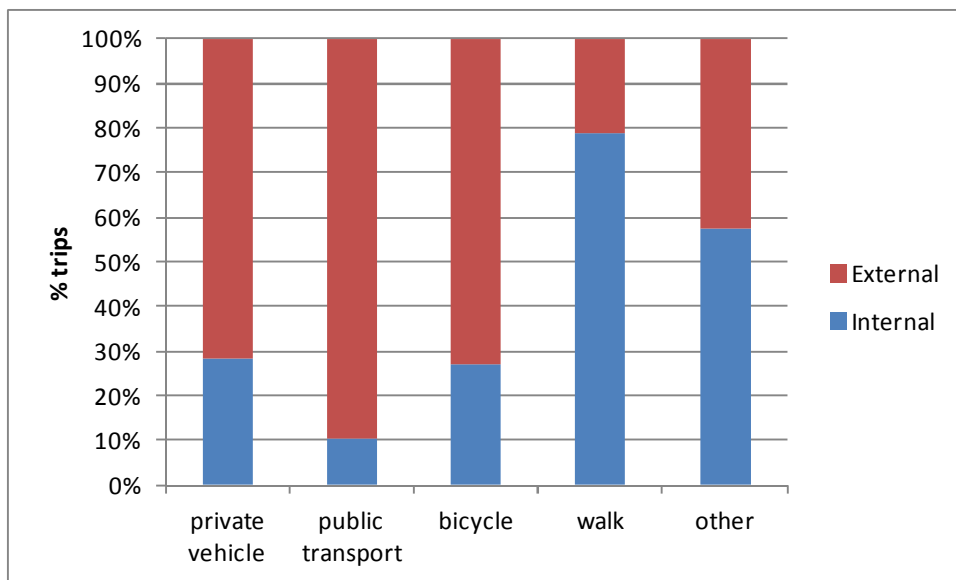


Figure 45: Split of internal/external work trips by mode, Melbourne Statistical Division 2011

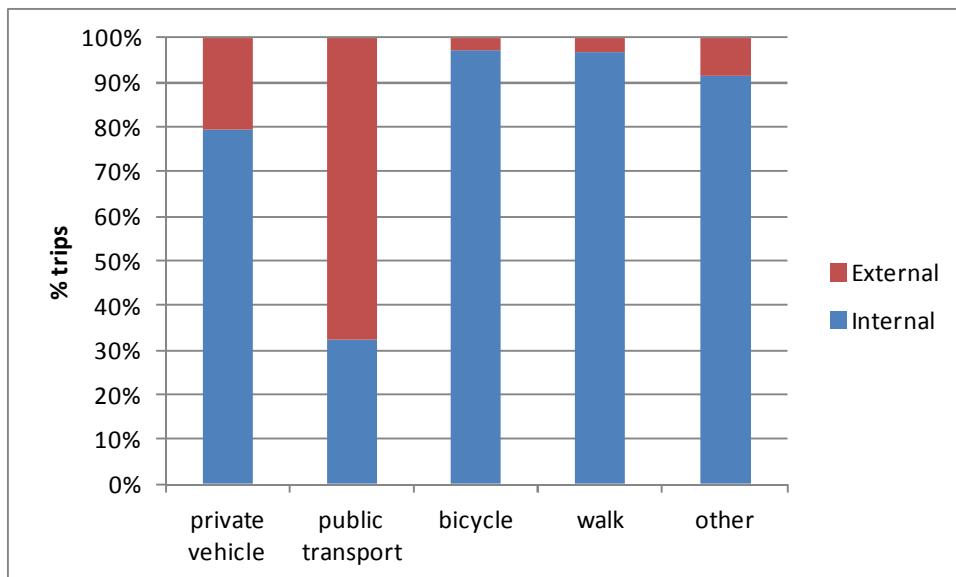


Figure 46: Split of internal/external work trips by mode, rest of Victoria 2011

Figure 47 and Figure 48 show the split of internal and external work trips by mode in 2001 in the MSD and rest of Victoria respectively. The splits were similar to those in 2011, except that there were more internal bicycle trips in the MSD and more internal public transport trips in the rest of Victoria in 2001.

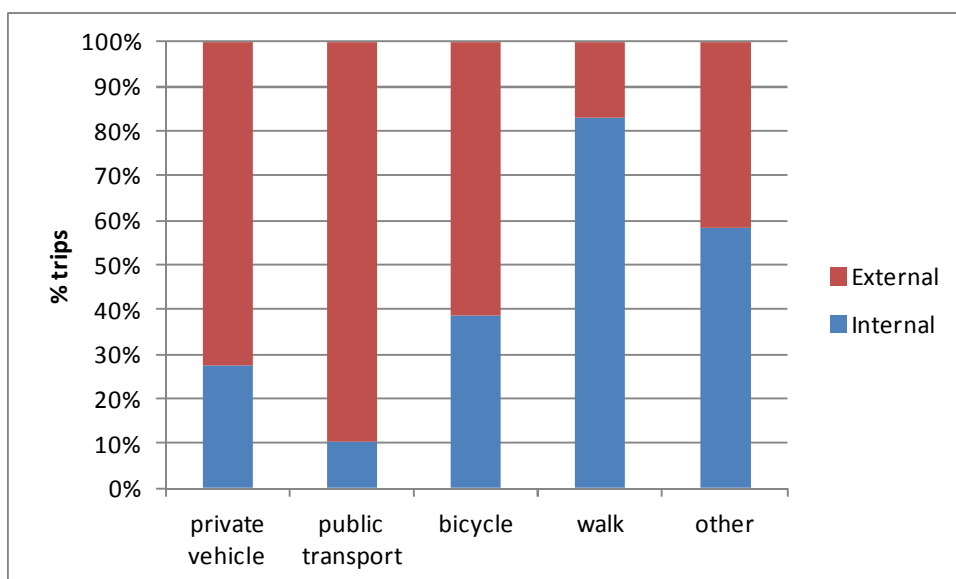


Figure 47: Split of internal/external work trips by mode, Melbourne Statistical Division 2001

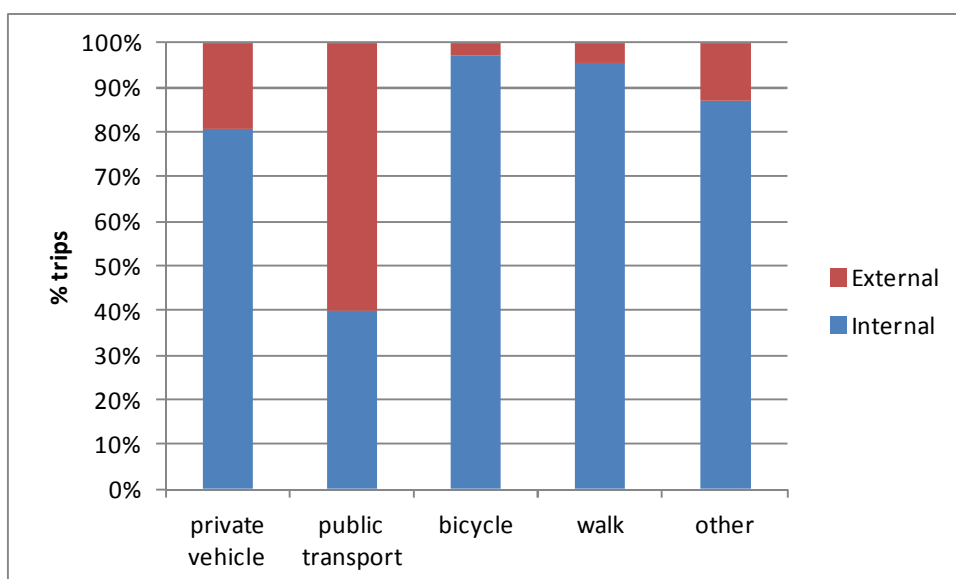


Figure 48: Split of internal/external work trips by mode, rest of Victoria 2001

3.2 Major Trip Origins

Table 1 lists the top ten LGAs of journey to work origins in 2011. Casey had the highest number of trip origins since 2001 and was one of the fastest growing areas in trip origins. Greater Geelong had the highest number of trip origins outside the MSD and the second highest in Victoria. Wyndham, Whittlesea and Hume had high growth in the number of trip origins. Between 2006 and 2011, Wyndham had the highest growth in the number of trip origins and displaced Monash as the third highest LGA of trip origins in 2011.

Table 1: Journeys to work for the top ten origins of local government area

Local Government Area	1996	2001	2006	2011
Casey	55,709	69,167	85,782	103,850
Greater Geelong	57,861	62,951	70,520	79,114
Wyndham	27,895	33,186	45,724	67,099
Monash	60,595	61,358	62,585	67,045
Brimbank	50,032	56,300	59,006	66,802
Knox	52,986	59,555	63,750	66,562
Boroondara	56,711	58,796	62,634	66,506
Whittlesea	38,042	42,685	47,717	62,172
Hume	41,082	45,838	52,371	61,663
Yarra Ranges	48,490	53,775	56,636	60,528

So where did people living in Casey go to work? Figure 49 and Figure 50 show the destinations of journey to work for people living in the City of Casey in 2011 and 2001 respectively. Most of the trips in 2011 went to Casey itself and the nearby City of Greater Dandenong. Significant numbers of trips also went to the Cities of Monash, Melbourne and Kingston. The pattern was similar in 2001 except that there were less people travelling to the City of Melbourne to work.

Figure 51 and Figure 52 show the destinations of journey to work for people living in the City of Greater Geelong in 2011 and 2001 respectively. Note that only destinations within the MSD were shown in Figure 52 as fine detail of destinations outside the MSD was not available for 2001. In 2011, most people living in Geelong went to work in Geelong itself. Some people also went to Melbourne, Wyndham and Surf Coast to work. This pattern had not been changed since 2001 based on data at the LGA level, although finer detail of destination data was lacking for 2001.

The City of Monash was one of the top origins of journey to work since 1996. Figure 53 and Figure 54 show the destinations of journey to work for people living in the City of Monash in 2011 and 2001 respectively. In 2011, most people living in Monash went to work in Monash itself and the City of Melbourne. Significant number of trips also went to nearby LGAs, such as Greater Dandenong, Whitehorse and Kingston. The pattern in 2001 was similar to that in 2011.

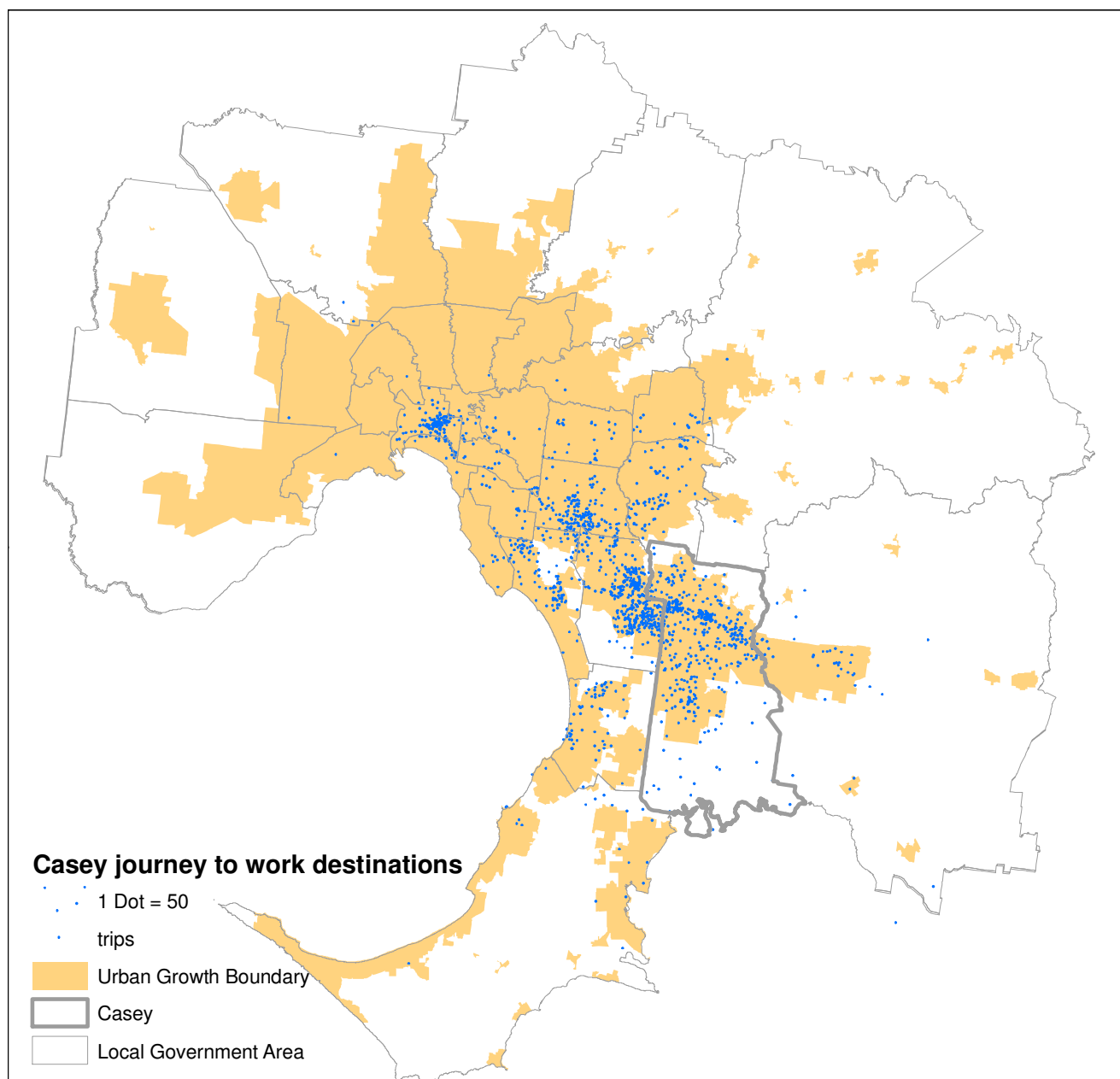


Figure 49: Destinations of journey to work for people living in the City of Casey, 2011

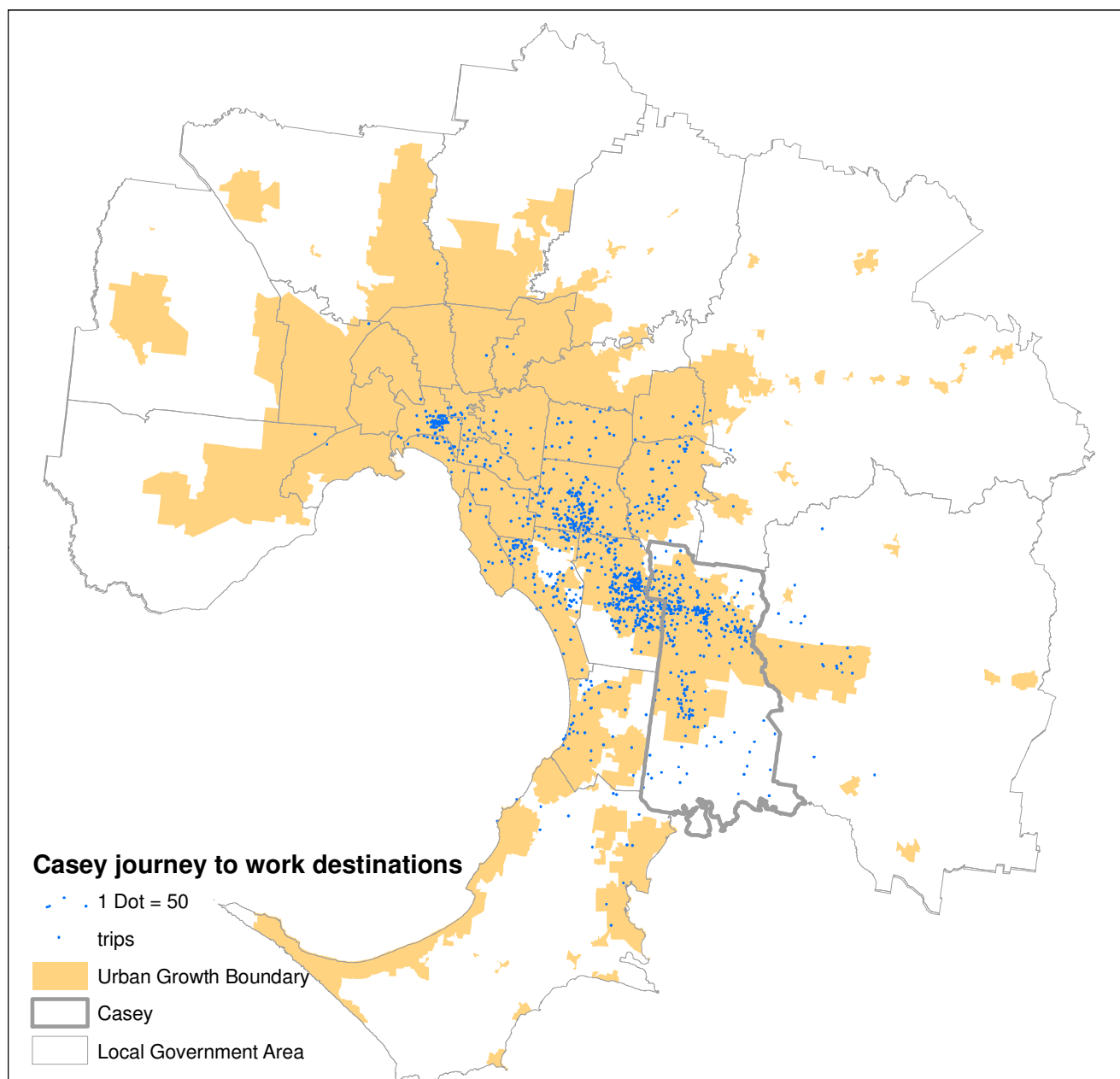


Figure 50: Destinations of journey to work for people living in the City of Casey, 2001

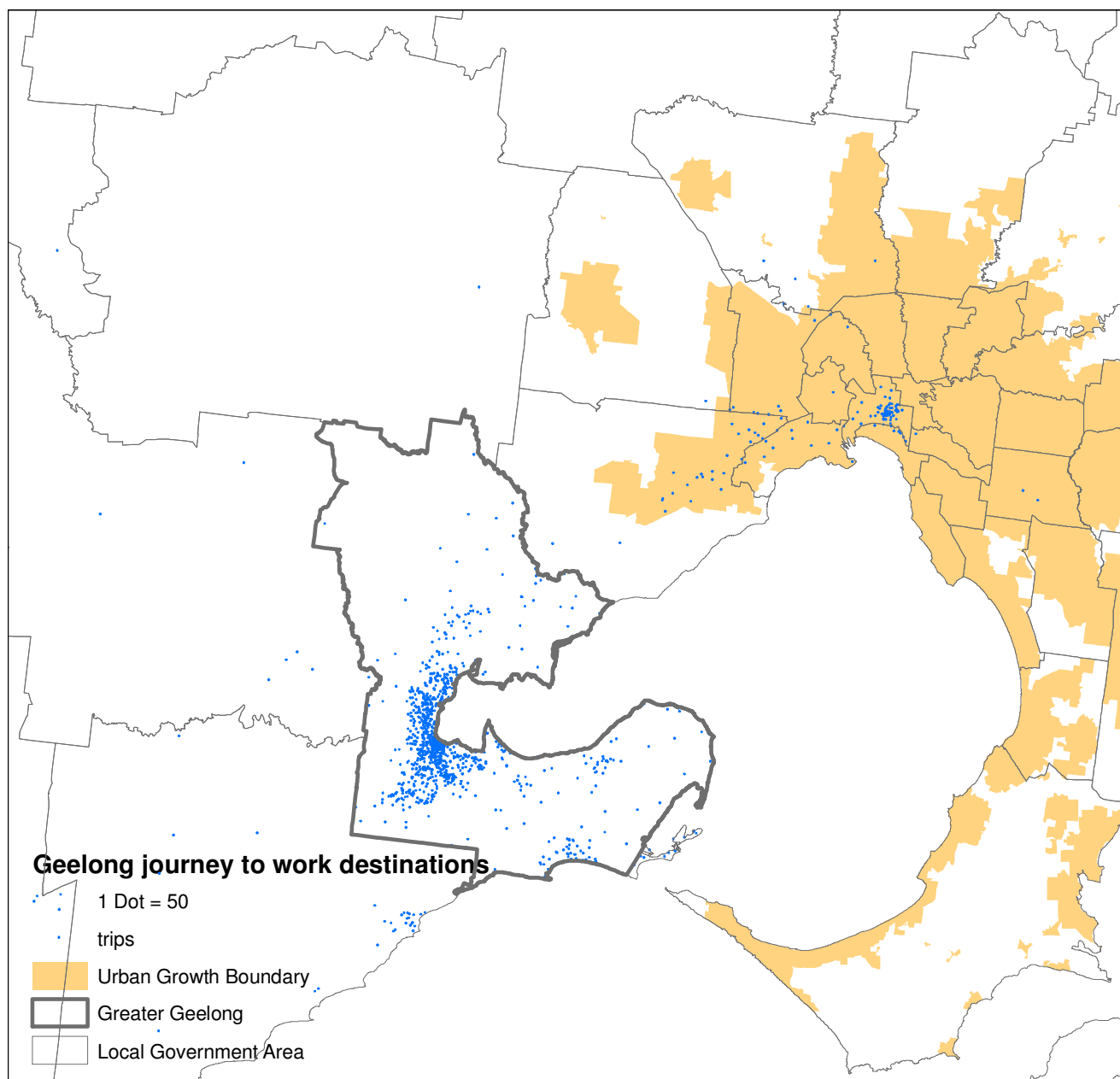


Figure 51: Destinations of journey to work for people living in the City of Greater Geelong, 2011

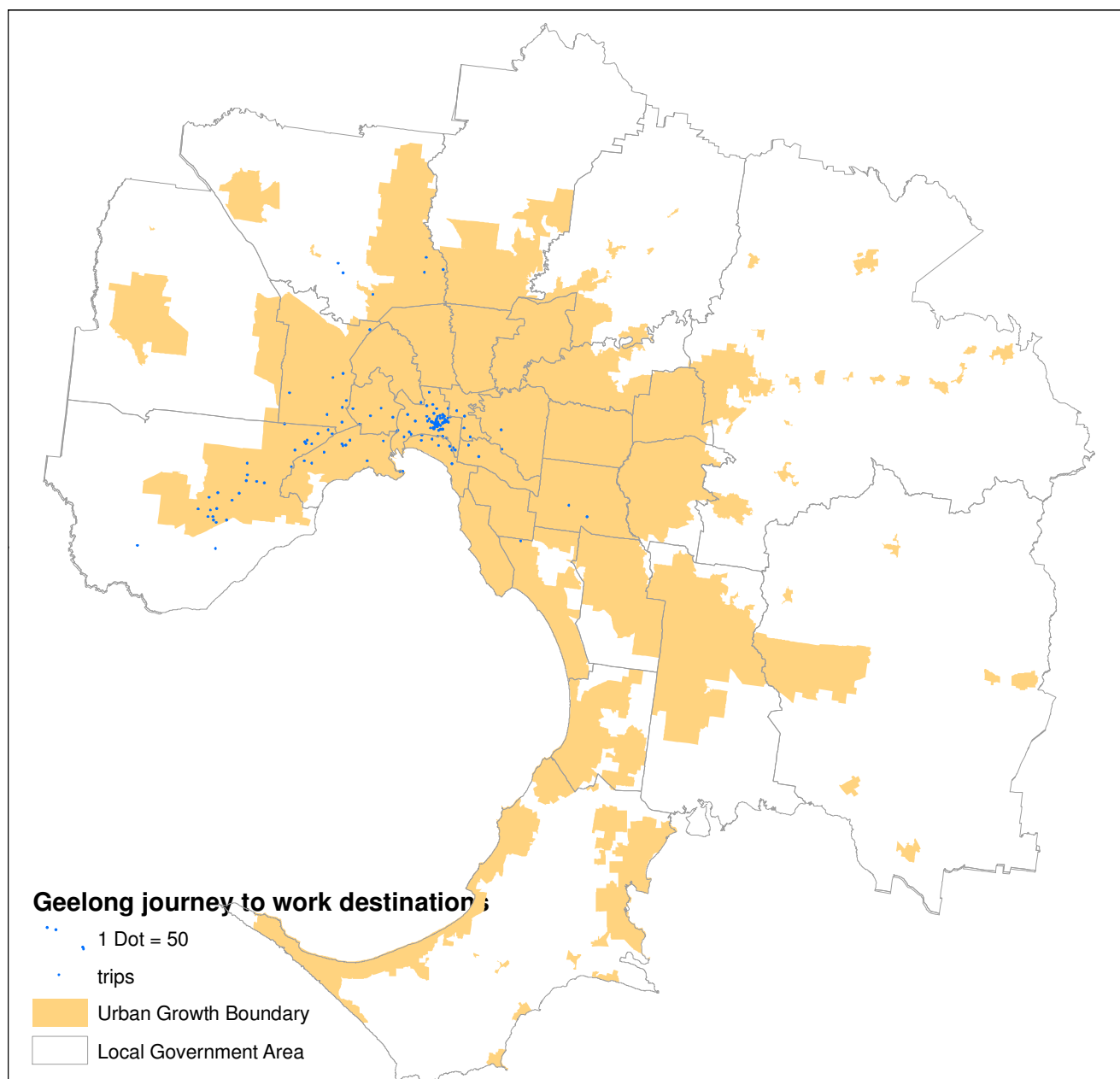


Figure 52: Destinations of journey to work to Melbourne Statistical Division for people living in the City of Greater Geelong, 2001

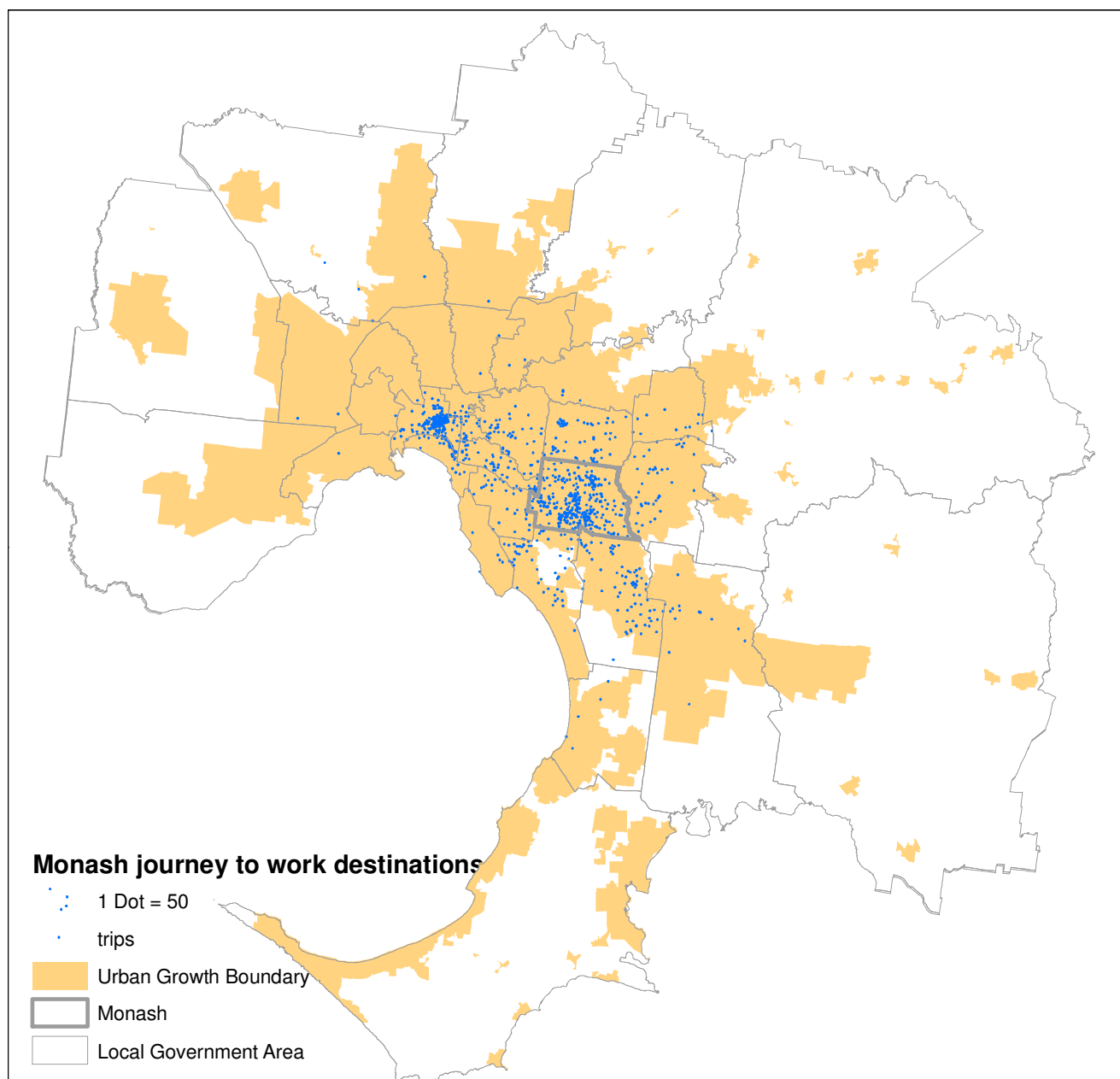


Figure 53: Destinations of journey to work for people living in the City of Monash, 2011

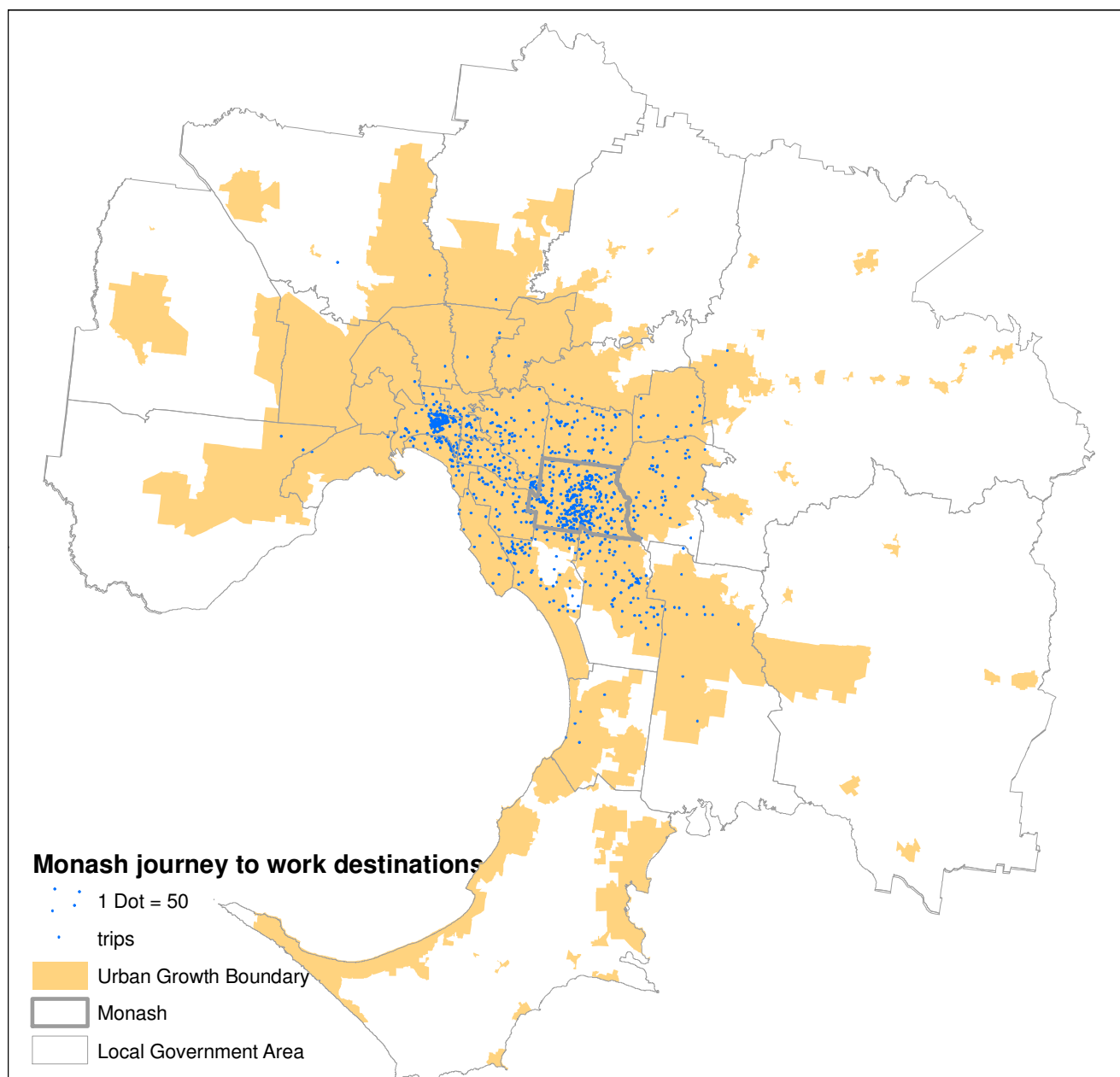


Figure 54: Destinations of journey to work for people living in the City of Monash, 2001

3.3 Major Trip Destinations

Table 2 lists the top ten LGAs of journey to work destinations. The City of Melbourne was by far the largest destination of journey to work. However, since 2006 the number of trips has increased dramatically to over 320,000 trips per day in 2011.

Monash and Greater Dandenong had been the second and third largest destination of journey to work since 2001. However, Hume had the highest growth of trips of destination between 1996 and 2011.

Table 2: Journeys to work for the top ten destinations of local government area

Local Government Area	1996	2001	2006	2011
Melbourne	220,774	240,943	262,916	320,255
Monash	67,657	71,407	76,249	78,178
Greater Dandenong	55,029	59,547	66,536	69,306
Greater Geelong	51,593	54,580	61,101	65,531
Hume	43,200	49,275	55,906	62,943
Yarra	47,235	46,924	49,545	58,841
Kingston	56,330	57,951	58,236	57,921
Port Phillip	50,016	55,030	58,343	56,158
Whitehorse	41,107	47,413	49,734	51,649
Boroondara	44,094	44,332	48,022	51,293

Figure 55 and Figure 56 show the origins of journey to work for people working in the City of Melbourne in 2011 and 2001 respectively. The origins were dispersed in 2011, although there were generally more people living in the inner suburbs went to work to the City of Melbourne. The pattern was similar in 2001, although there were significantly less trips from Wyndham and Melton.

The City of Monash was both a major origin and destination of journey to work. Figure 57 and Figure 58 show the origins of journey to work for people working in Monash in 2011 and 2001 respectively. In 2011, most people working in Monash also live in Monash. Significant numbers of trips also come from nearby LGAs, such as Casey, Knox and Greater Dandenong. The pattern was similar for 2001.

Figure 59 and Figure 60 show the origins of journey to work for people working in Greater Dandenong in 2011 and 2001 respectively. Most people working in Greater Dandenong in 2011 came from Greater Dandenong itself and Casey. In fact, there were more people from Casey than Greater Dandenong came to work in Greater Dandenong. Significant numbers of trips also came from nearby LGAs, such as Frankston, Kingston and Monash. The pattern was similar for 2001.

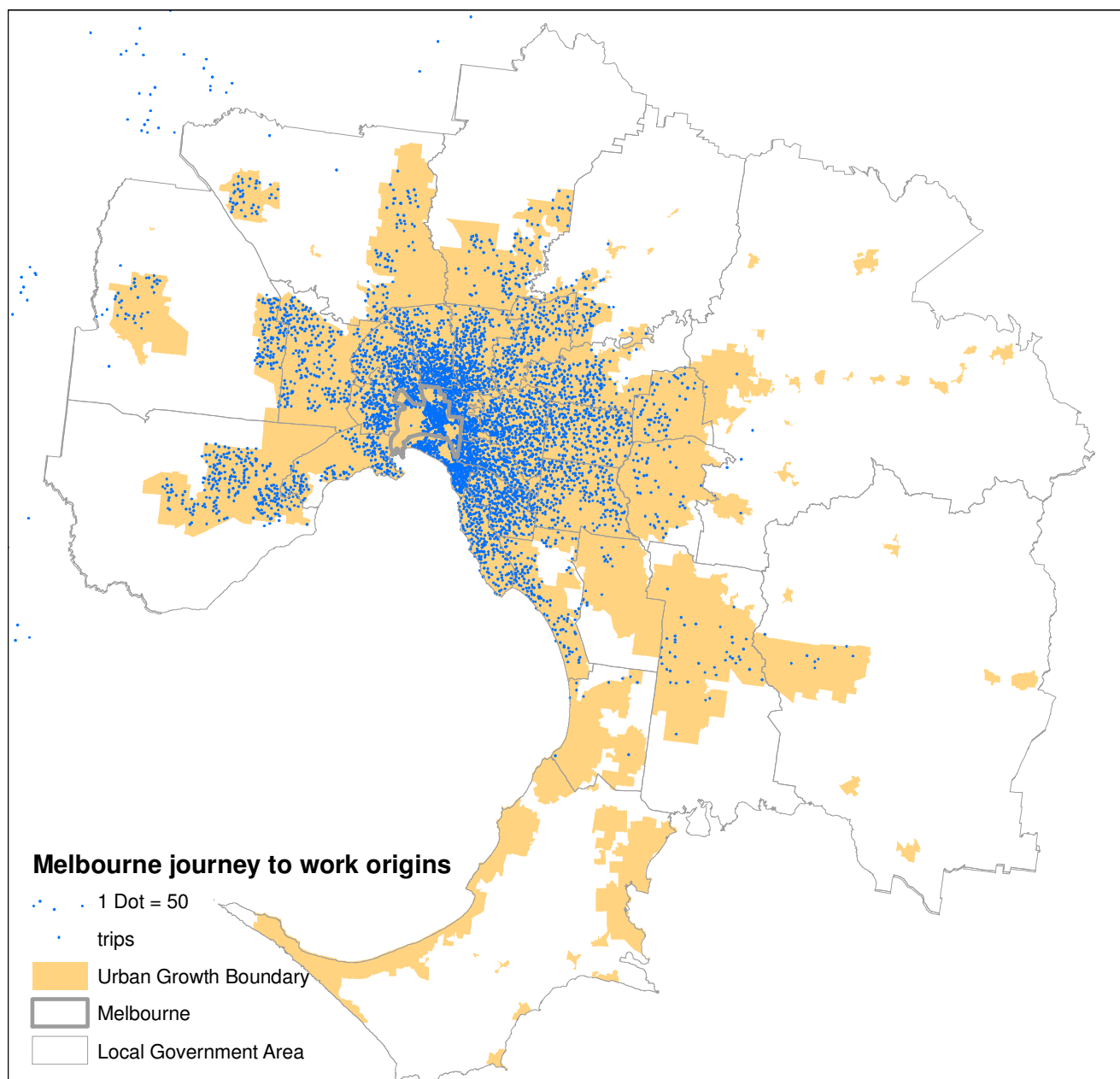


Figure 55: Origins of journey to work for people working in the City of Melbourne, 2011

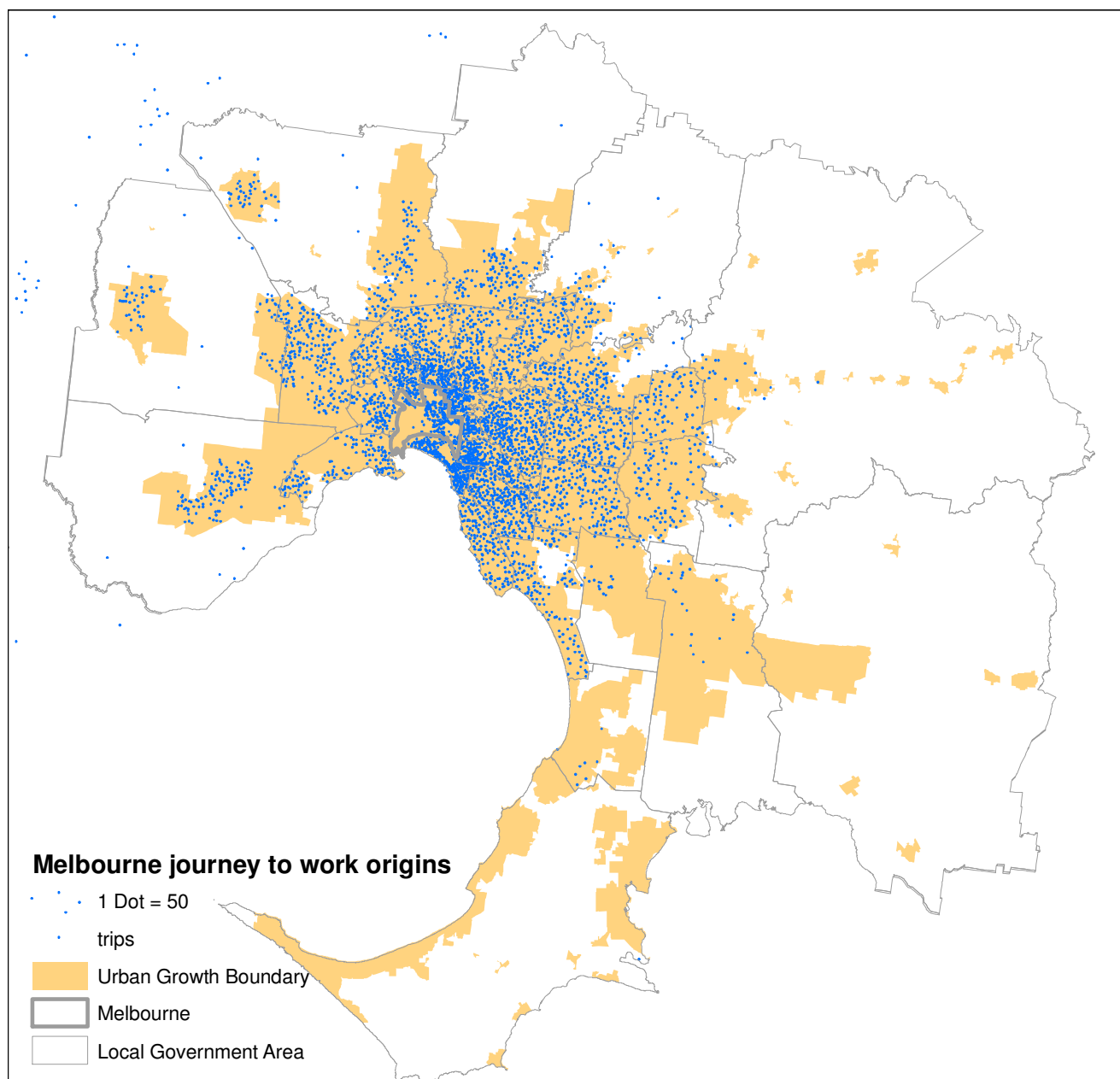


Figure 56: Origins of journey to work for people working in the City of Melbourne, 2001

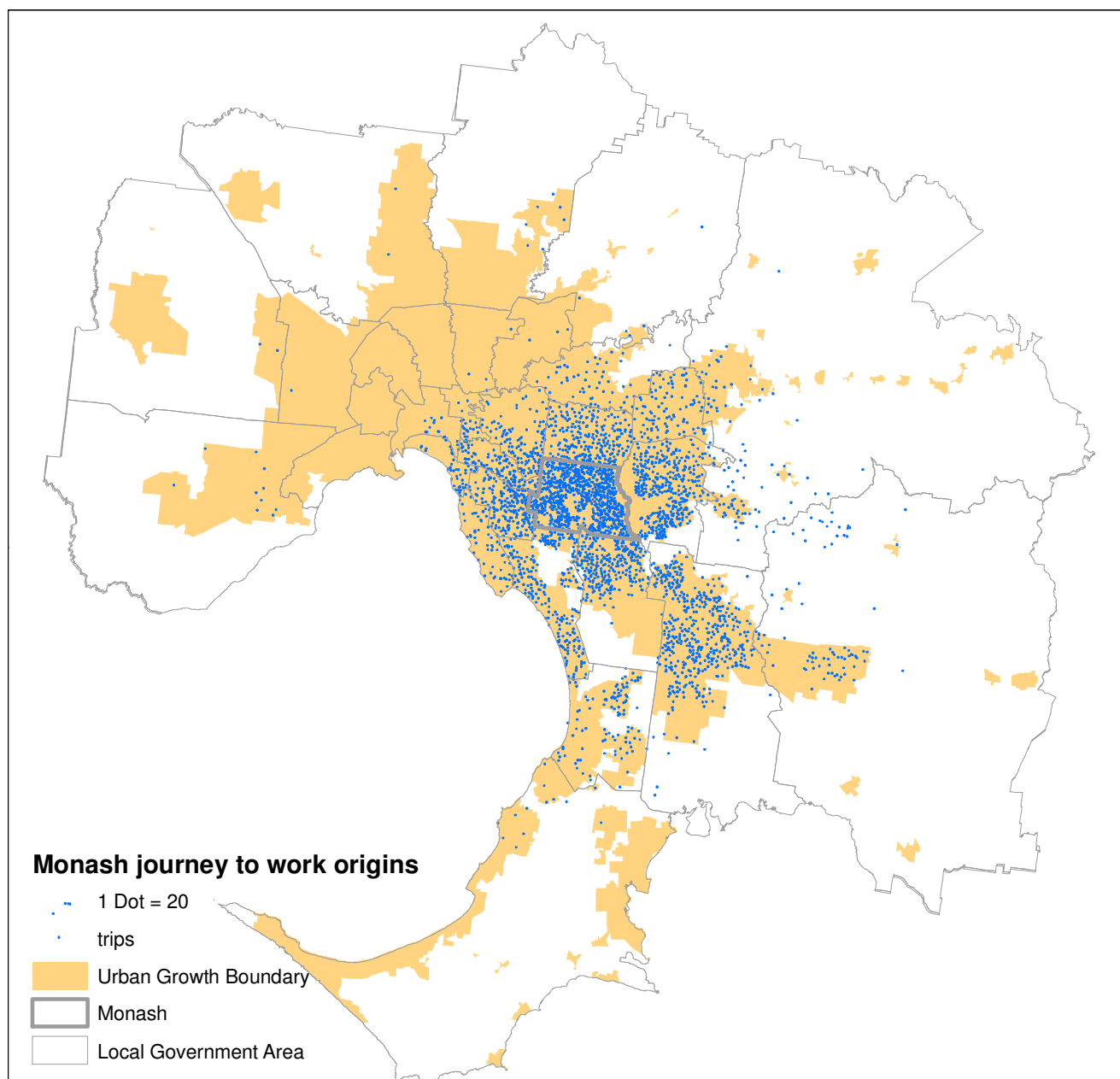


Figure 57: Origins of journey to work for people working in the City of Monash, 2011

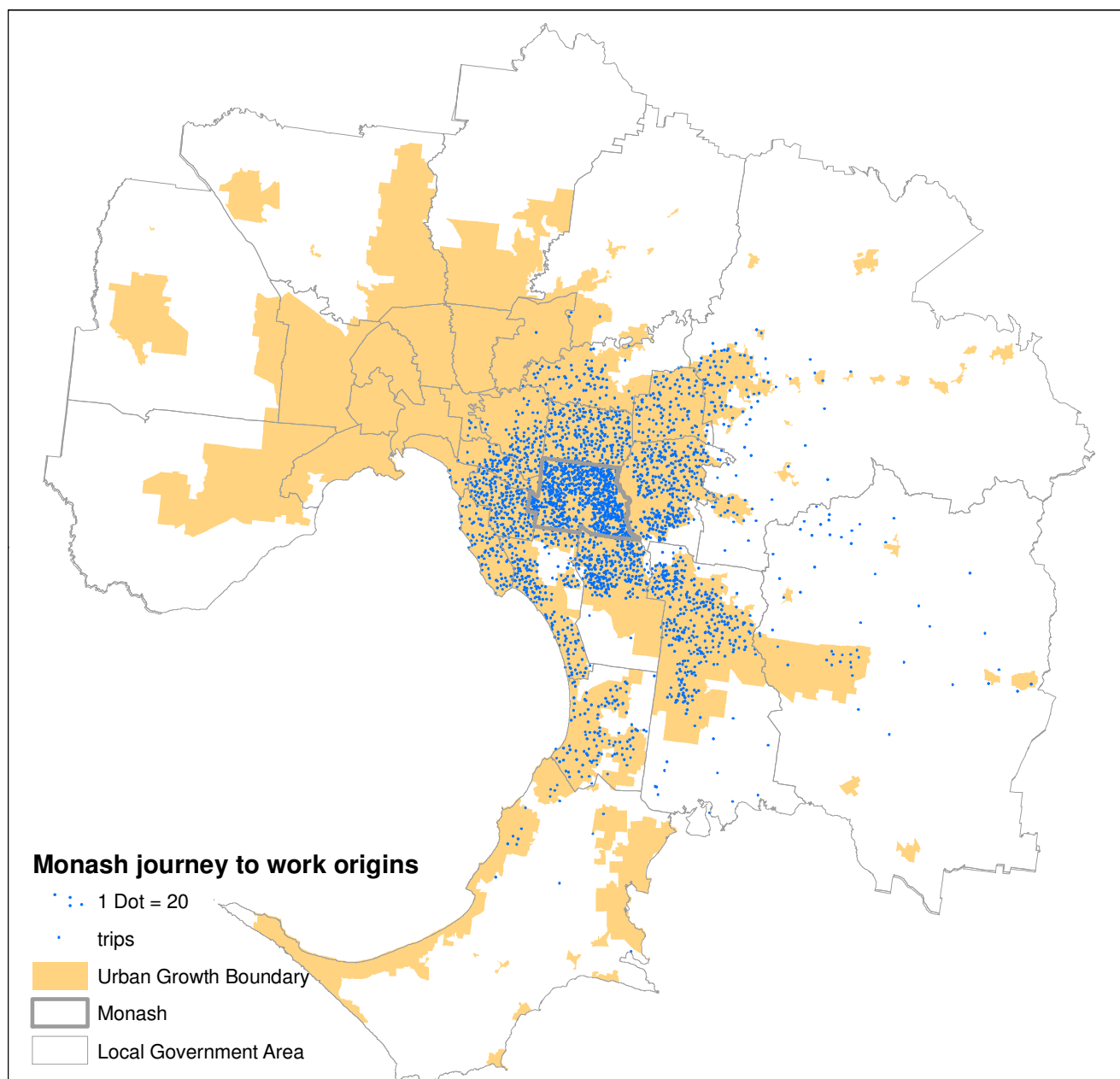


Figure 58: Origins of journey to work for people working in the City of Monash, 2001

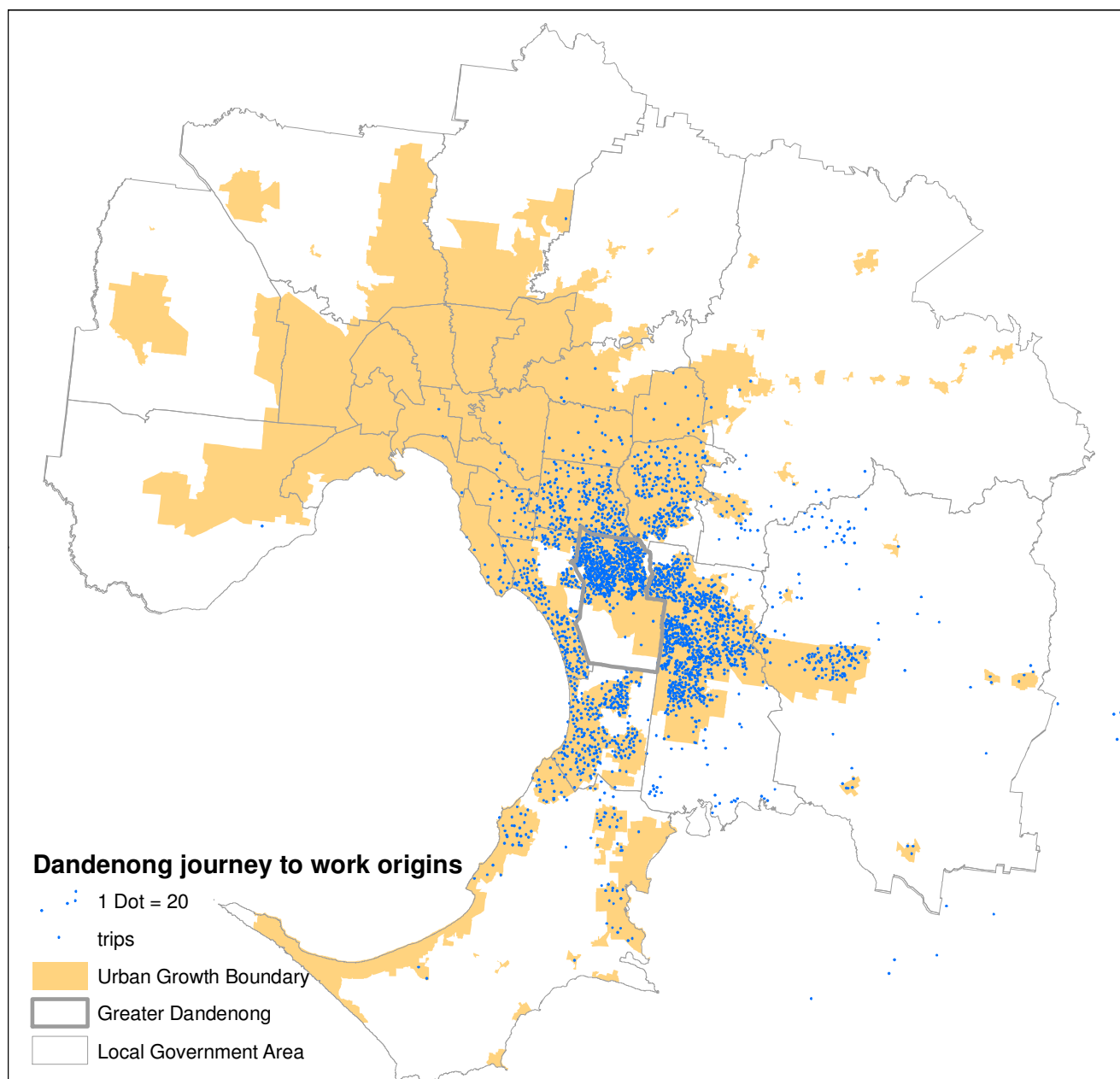


Figure 59: Origins of journey to work for people working in the City of Greater Dandenong, 2011

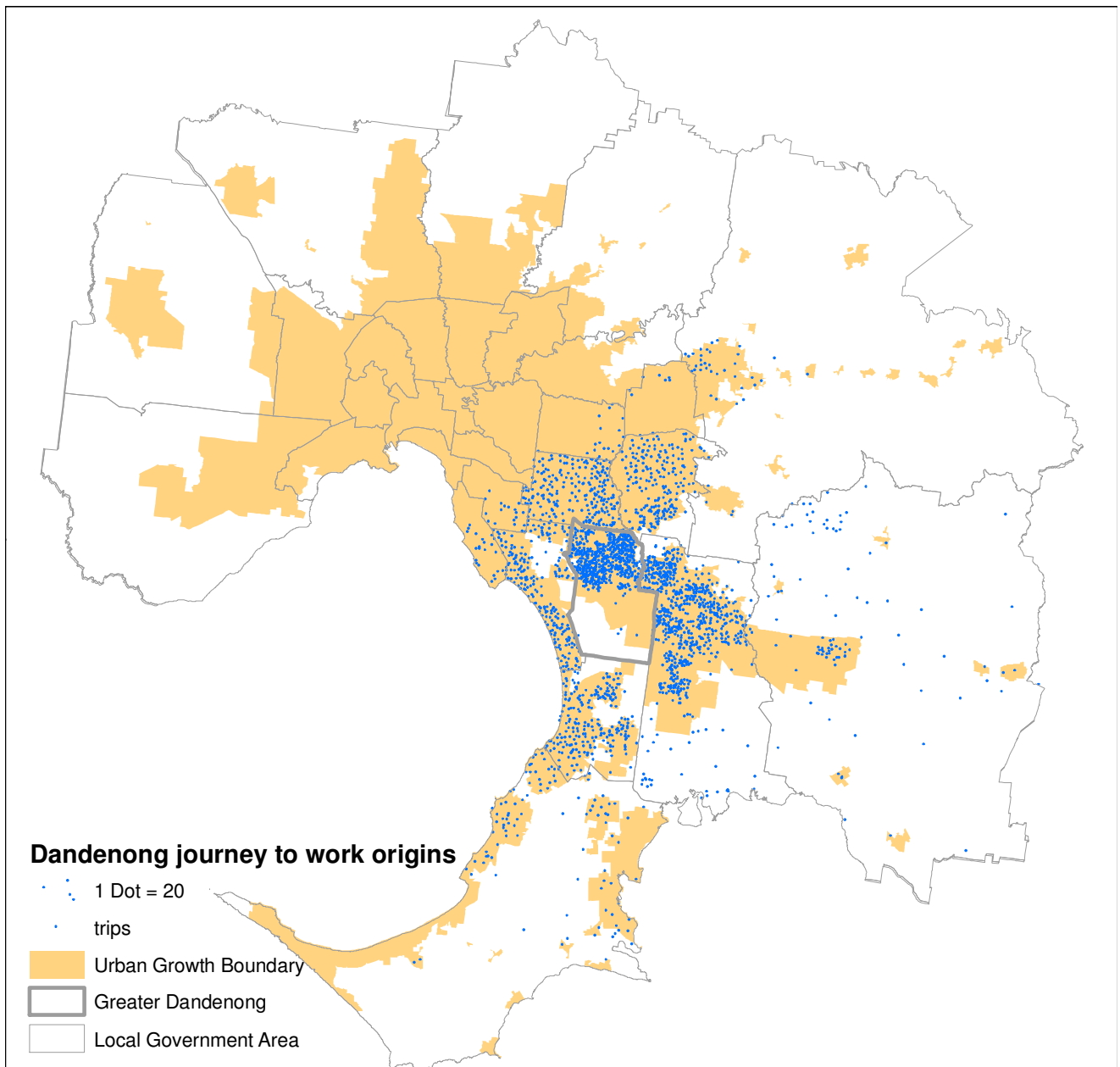


Figure 60: Origins of journey to work for people working in the City of Greater Dandenong, 2001

3.4 Private vehicles

Figure 61 and Figure 62 show the major (top thirty) desire lines of journey to work by private vehicle among LGAs in 2011 in the MSD and rest of Victoria respectively. The strongest desire of travel in the MSD by far was from Casey to Greater Dandenong with 18,100 trips per day. There were also strong desires of travel from Casey to Monash, Boroondara to Melbourne and from Wyndham to Melbourne with 7000-8000 trips per day. Many other desire lines of travel were from the growth areas to the neighbouring LGAs and from neighbouring LGAs to Melbourne.

For the rest of Victoria, the strongest desires of travel were from Surf Coast to Greater Geelong (3600 trips per day), Golden Plains to Ballarat (2100 trips per day) and Golden Plains to Greater Geelong (2000 trips per day). Many people living in Greater Geelong and

Macedon Ranges travelled to neighbouring suburbs and the City of Melbourne to work. A significant number of journeys to work also crossed the NSW border.



Figure 61: Major desire lines of journey to work by private vehicle among local government areas, Melbourne Statistical Division 2011



Figure 62: Major desire lines of journey to work by private vehicle among local government areas, rest of Victoria 2011

Figure 63 and Figure 64 show the major desire lines of journey to work by private vehicle among LGAs in 2001 in the MSD and rest of Victoria respectively. As in 2011, the strongest desire of travel in the MSD was from Casey to Dandenong with 14,200 trips per day. However, in contrast to 2011, there was significantly less trips travelled from the west.

For the rest of Victoria, the desire lines of travel are similar to those in 2011, showing there was little change in travel pattern in the last ten years or so.

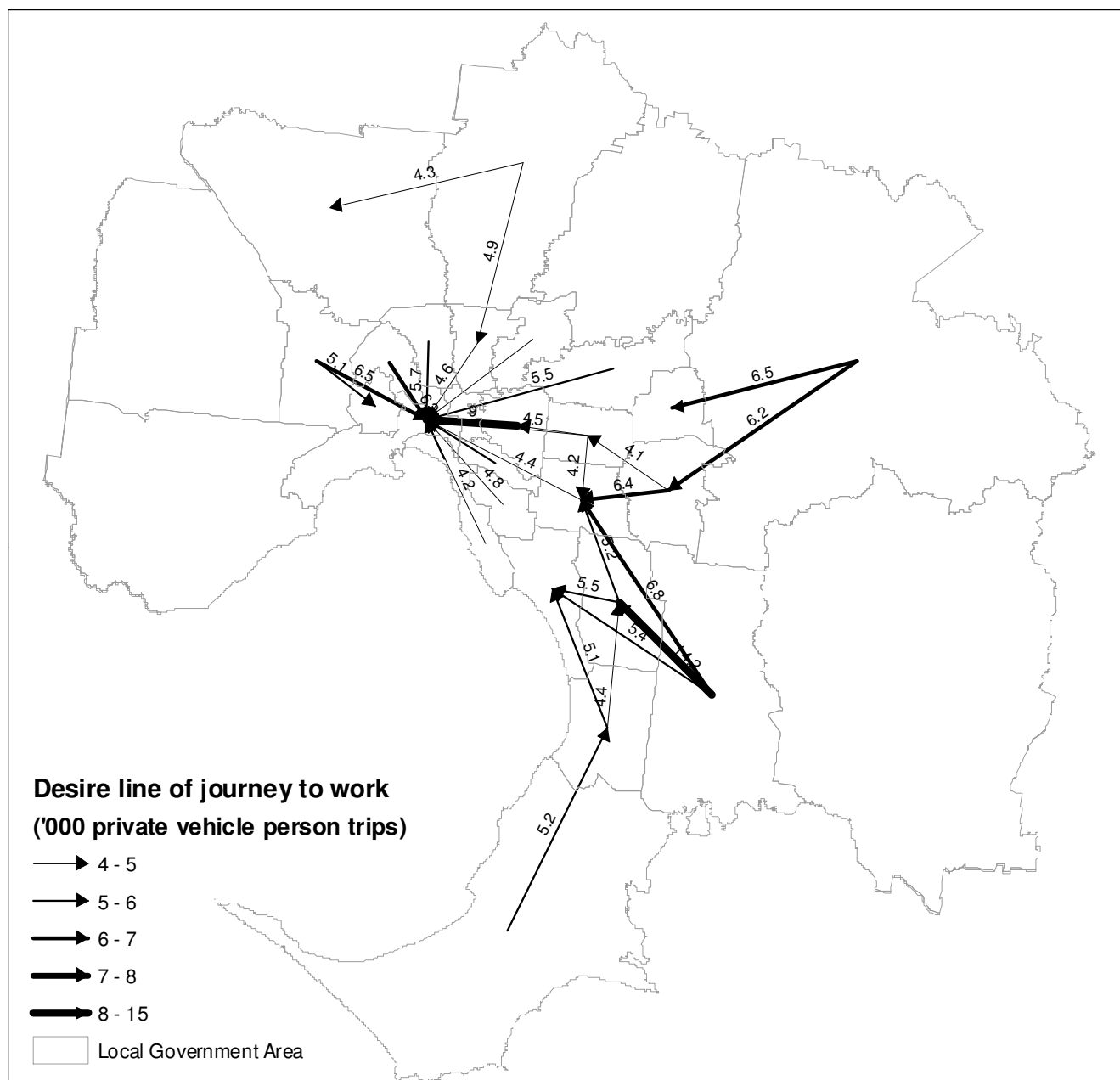


Figure 63: Major desire lines of journey to work by private vehicle among local government areas, Melbourne Statistical Division 2001



Figure 64: Major desire lines of journey to work by private vehicle among local government areas, rest of Victoria 2001

3.5 Public Transport

Figure 65 and Figure 66 show the major desire lines of journey to work by public transport among LGAs in 2011 in the MSD and rest of Victoria respectively. Almost all major desire lines of travel by public transport in the MSD ended at the City of Melbourne. The strongest desires of travel were from Moreland (10,200 trips per day), Boroondara (10,000 trips per day) and Port Phillip (9600 trips per day). A significant number of trips also travelled from Greater Geelong to the City of Melbourne, which was actually higher than the trips from some LGAs in the MSD. There was only one major desire line of travel not going to the City of Melbourne, which was from Darebin to Yarra.



Figure 65: Major desire lines of journey to work by public transport among local government areas, Melbourne Statistical Division 2011

For the rest of Victoria, most trips also went to the City of Melbourne or inner suburbs. The strongest desires were by far from Greater Geelong (2300 trips per day) and Macedon Ranges (920 trips per day).



Figure 66: Major desire lines of journey to work by public transport among local government areas, rest of Victoria 2011

Figure 67 and Figure 68 show the major desire lines of journey to work by public transport among LGAs in 2001 in the MSD and rest of Victoria respectively. As in 2011, almost all major desire lines of travel by public transport in the MSD ended at the City of Melbourne. However, the number of trips was significantly less than that in 2011. The strongest desires of travel were from Boroondara (7600 trips per day), Port Phillip (6800 trips per day) and Stonnington (6400 trips per day).

For the rest of Victoria, as in 2011, most trips also went to the City of Melbourne or inner suburbs. However, the number of trips was significantly less than that in 2011. As in 2011, the strongest desires were by far from Greater Geelong (1400 trips per day) and Macedon Ranges (470 trips per day).



Figure 67: Major desire lines of journey to work by public transport among local government areas, Melbourne Statistical Division 2001



Figure 68: Major desire lines of journey to work by public transport among local government areas, rest of Victoria 2001

3.6 Bicycles

Figure 69 shows the major desire lines of journey to work by bicycle among LGAs in 2011 in the MSD. Most of the major desire lines of travel occurred in the City of Melbourne and surrounding suburbs. The City of Melbourne was the major destination, although many trips also went to the Cities of Yarra and Port Phillip. The strongest desires of travel were from Moreland to Melbourne (2000 trips per day) and from Yarra to Melbourne (1900 trips per day). The pattern was similar for 2001, although the numbers of trips were significantly less. The strongest desires of travel were from Yarra to Melbourne (840 trips per day) and from Moreland to Melbourne (600 trips per day).

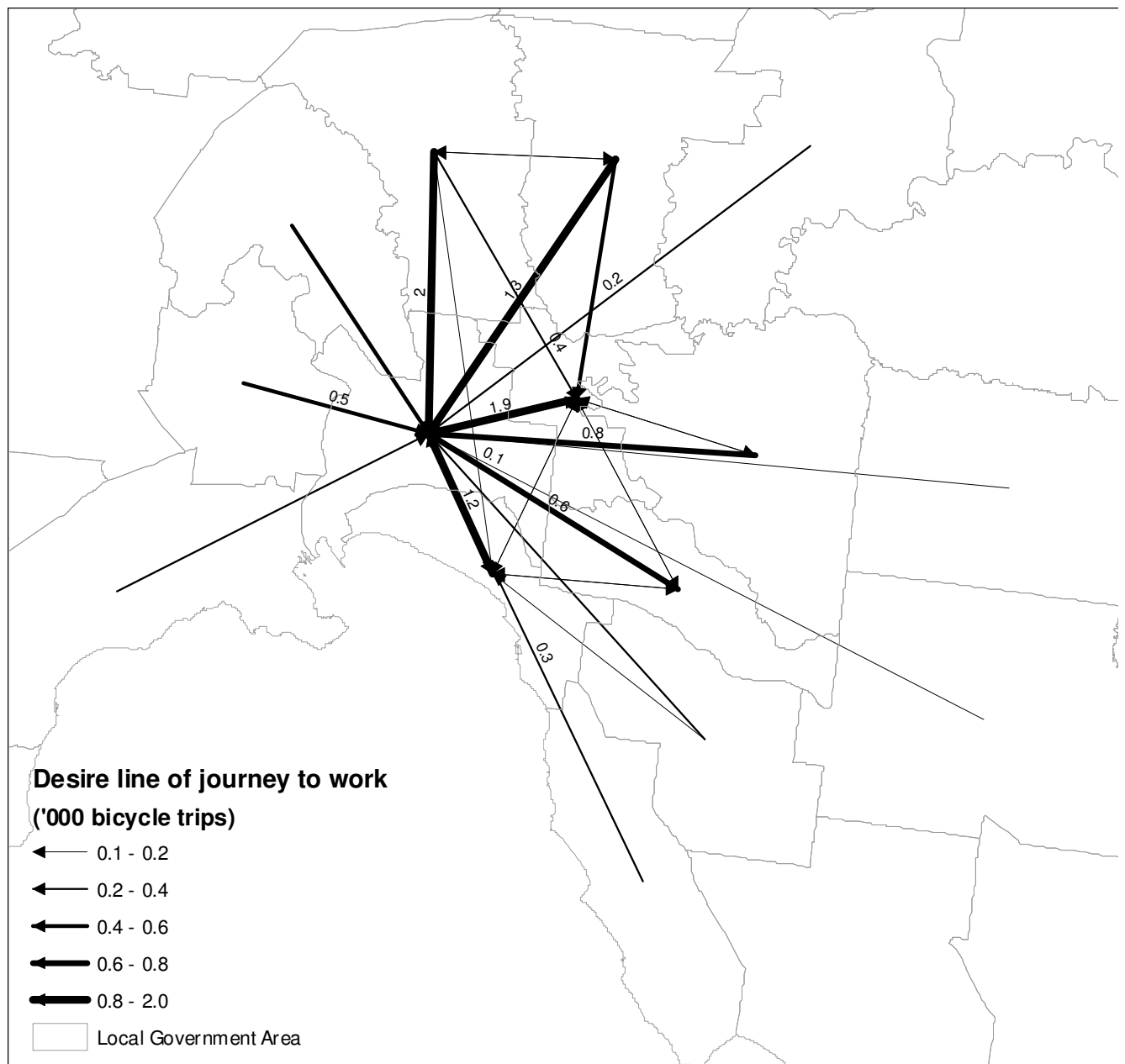


Figure 69: Major desire lines of journey to work by bicycle among local government areas, Melbourne Statistical Division 2011

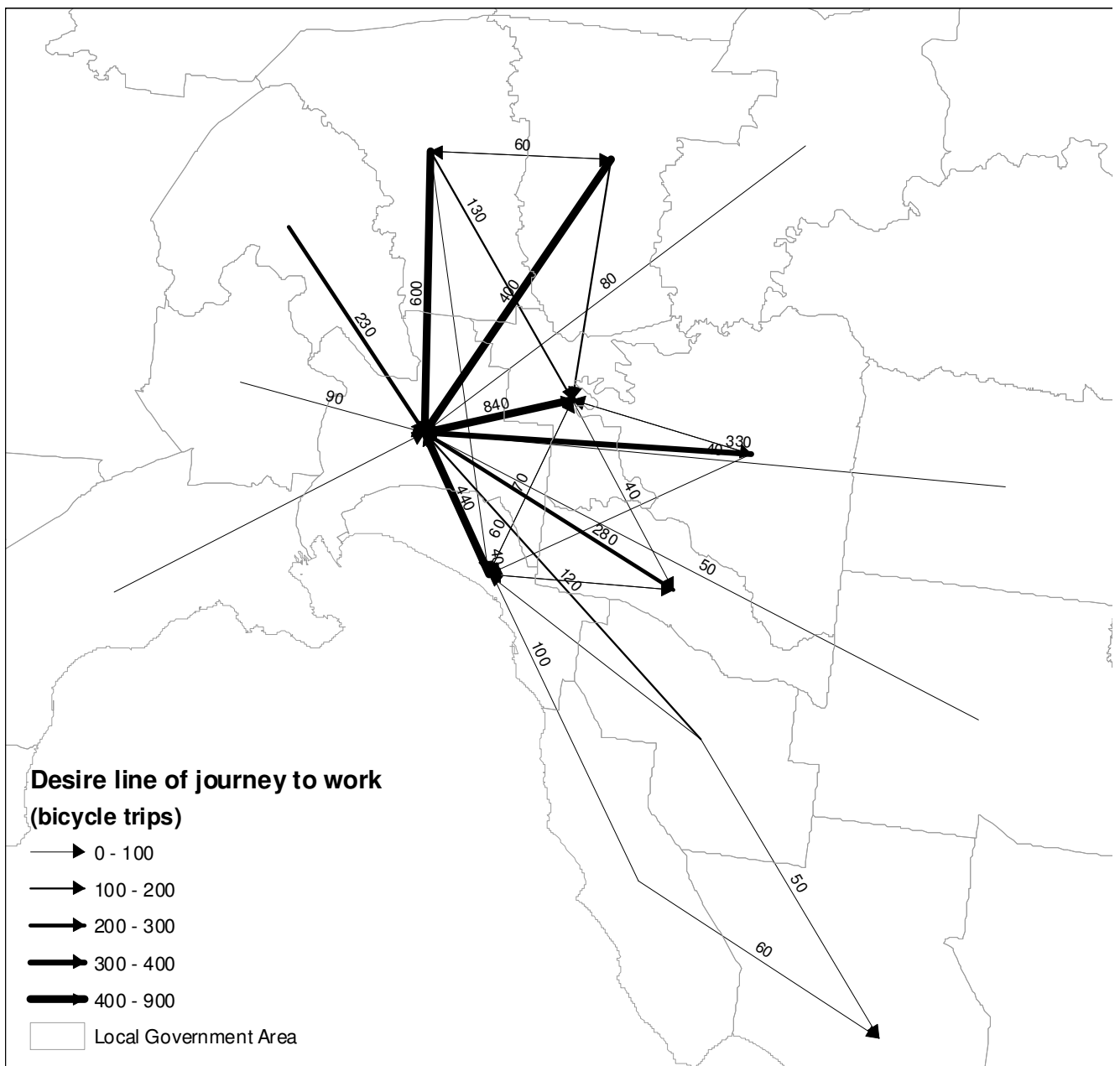


Figure 70: Major desire lines of journey to work by bicycle among local government areas, Melbourne Statistical Division 2001

4 Mode Share

4.1 Mode Share by Year

Figure 71 and Figure 72 show the mode share of journey to work by Census year in the MSD and rest of Victoria respectively. The mode shares of public transport, bicycle and walk in the MSD all increased from 1996 to 2011 while private vehicle reduced. The mode share of public transport increased from 13% in 1996 to 17% in 2011. The highest increase was between 2006 and 2011 when the mode share jumped from 15% to 17%. The mode share of bicycle almost doubled from 0.9% in 1996 to 1.7% in 2011. The highest increase was between 2001 and 2006 from 1.0% to 1.4%. The mode share of walk increased from 3.0% in 1996 to 3.5% in 2011. The highest increase was between 2001 and 2006 when the mode

share jumped from 2.9% to 3.7%. The mode share of private vehicle dropped from 83% in 1996 to 77% in 2011. The largest drop was between 2006 and 2011 from 80% to 77%.

For the rest of Victoria, the mode share of private vehicle remained much the same at 90% through the years. The reliance on cars was higher than that in the MSD due to lack of public transport in country Victoria. However, the mode share of public transport did increase from 1.8% in 1996 to 3.0% in 2011. The highest increase was between 2006 and 2011 from 1.6% to 3.0%. The mode share of bicycle was the highest in 2001 at 1.6%. Since then it has declined to 1.0% in 2011. Walking was the second most common method of travel in country Victoria. The mode share was the highest in 2001 at 7.2%. Since then it has declined to 5.0% in 2011.

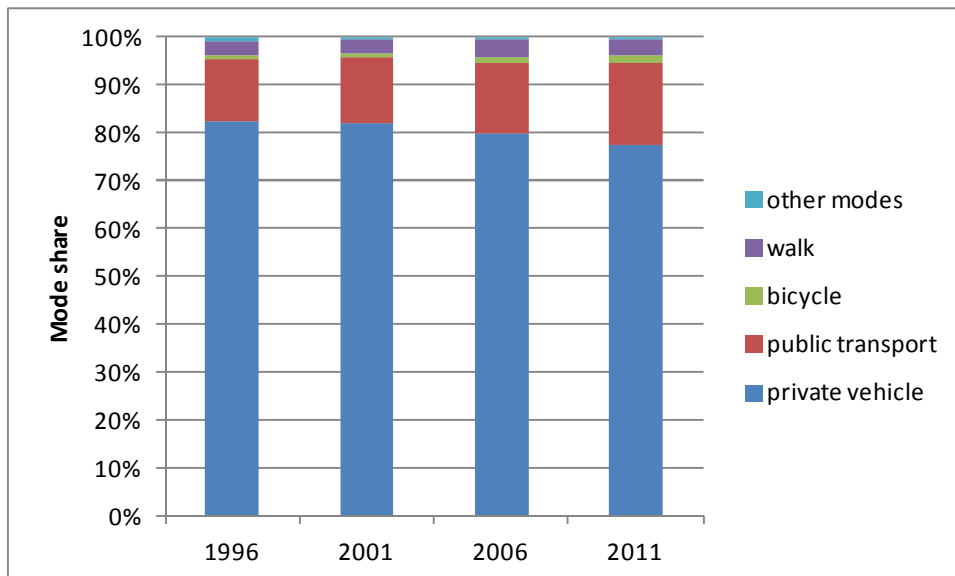


Figure 71: Mode share of journey to work by year, Melbourne Statistical Division

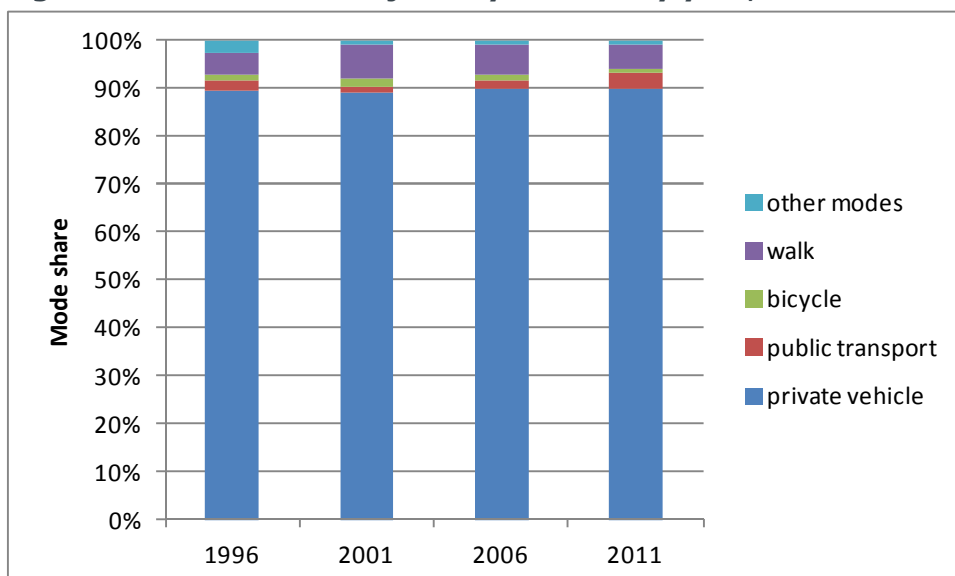


Figure 72: Mode share of journey to work by year, rest of Victoria

Figure 73 and Figure 74 show the mode share of journey to work by origin of LGA in 2011 for the MSD and rest of Victoria respectively. Private vehicle was the dominant mode of travel in most LGAs in the MSD although the use of public transport was generally also significant. Melbourne and Yarra were the only two LGAs with less than 50% mode share of

private vehicle, where significant number of residents took public transport, rode or walked to work.

For the rest of Victoria, private vehicle was the dominant mode of travel in all LGAs. Walking was the second most common mode of travel in many LGAs. This indicates many people lived and worked in close proximity, such as farmers, local traders and resort workers. Public transport was significant only for some LGAs near the MSD. Bicycle use was generally low in country Victoria.

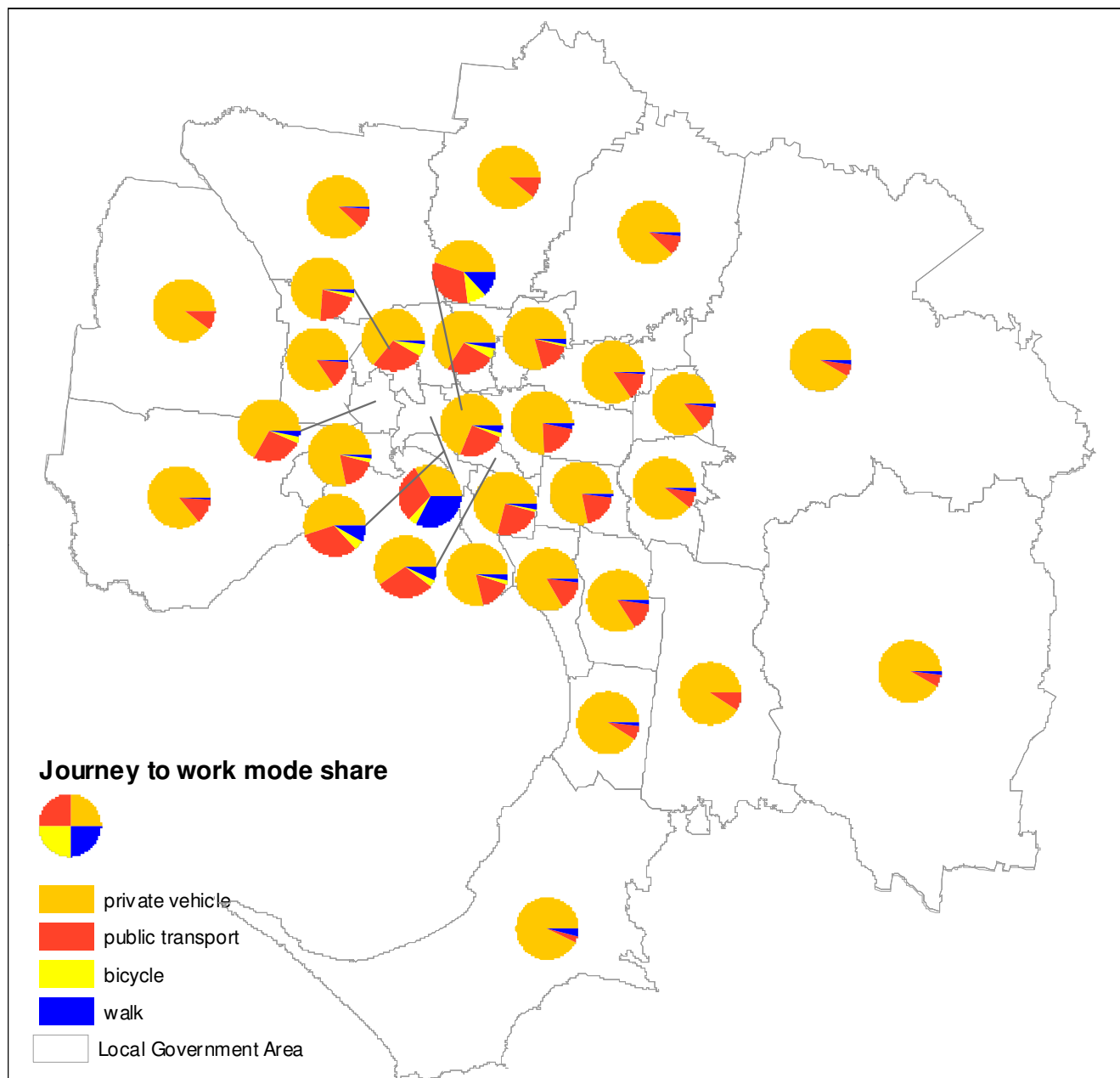


Figure 73: Journey to work mode share by origin of local government area, Melbourne Statistical Division 2011

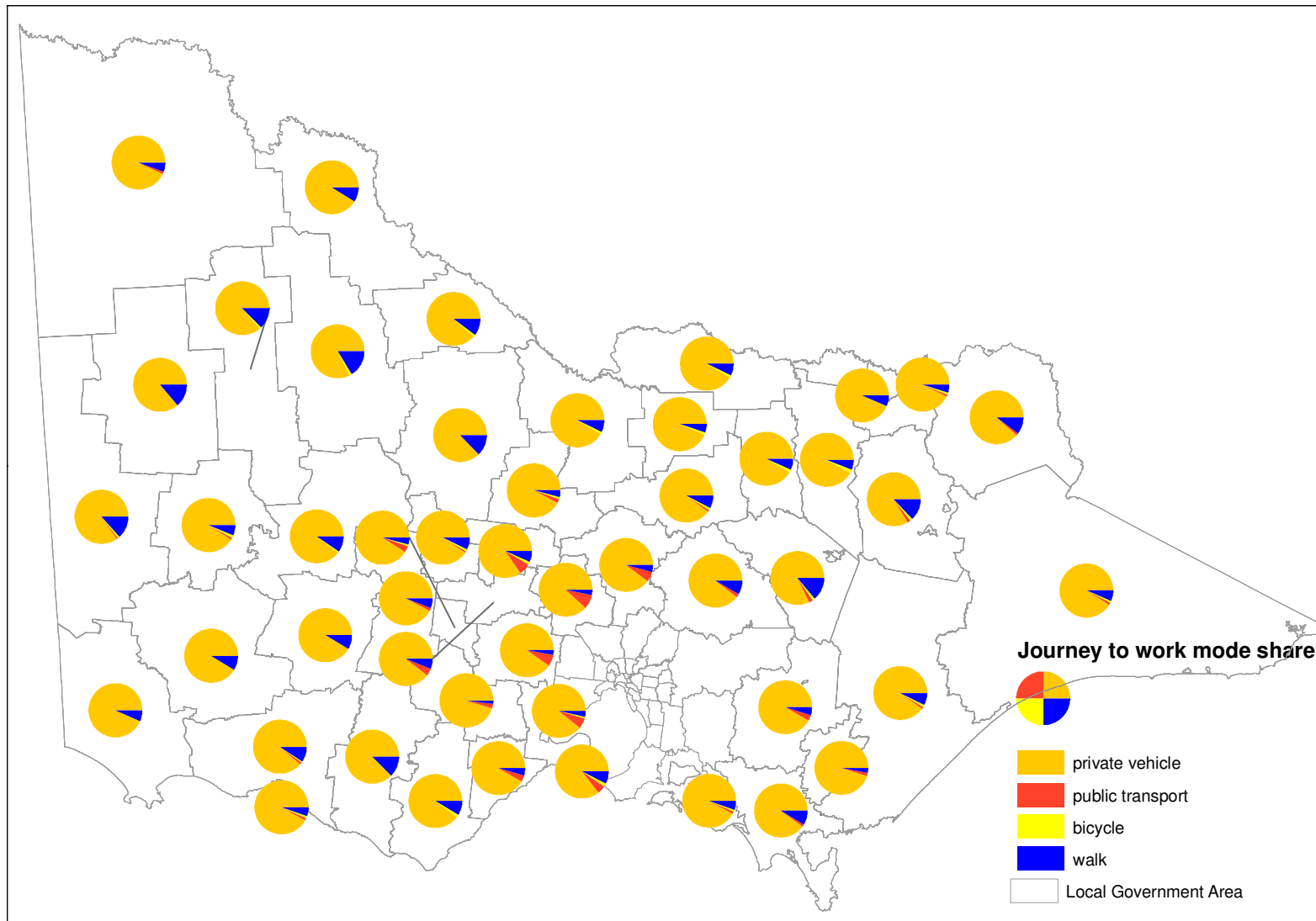


Figure 74: Journey to work mode share by origin of local government area, rest of Victoria 2011

Figure 75 and Figure 76 show the mode share of journey to work by origin of LGA in 2001 for the MSD and rest of Victoria respectively. The spatial pattern was similar to that in 2011, although generally the mode share of private vehicle was higher and that of public transport was lower. Similar to 2011, Melbourne and Yarra were the only LGAs with significant mode share of public transport, bicycle and walk.

The spatial pattern of mode share for the rest of Victoria was also similar to that for 2011. Private vehicle was the dominant mode of travel. Walking was the second most common mode of travel but the mode share was generally higher than that in 2011. Public transport was significant only for some LGAs near the MSD but the mode share was generally lower than that in 2011. Bicycle use was low but generally slightly higher than that in 2011.

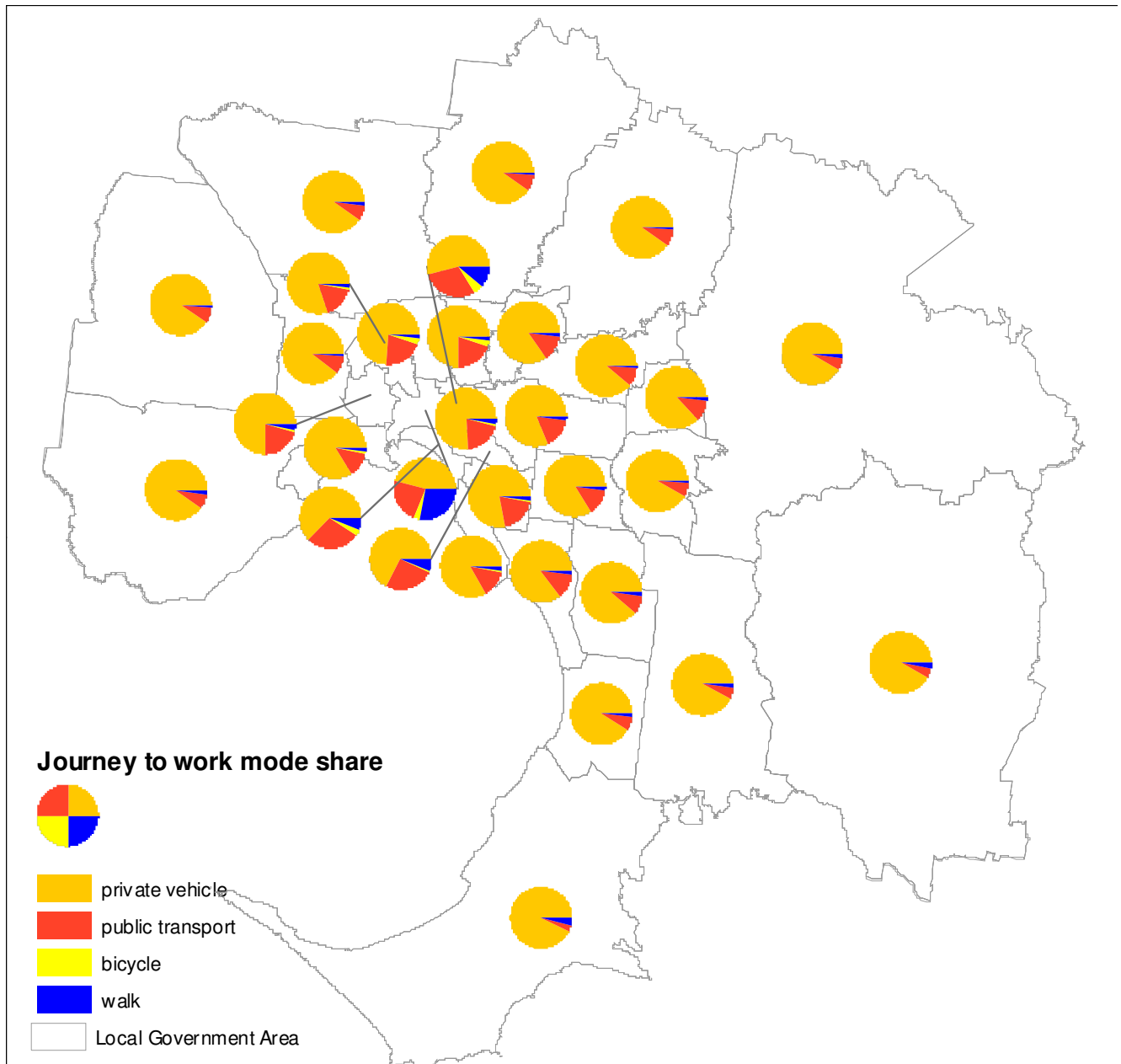


Figure 75: Journey to work mode share by origin of local government area, Melbourne Statistical Division 2001

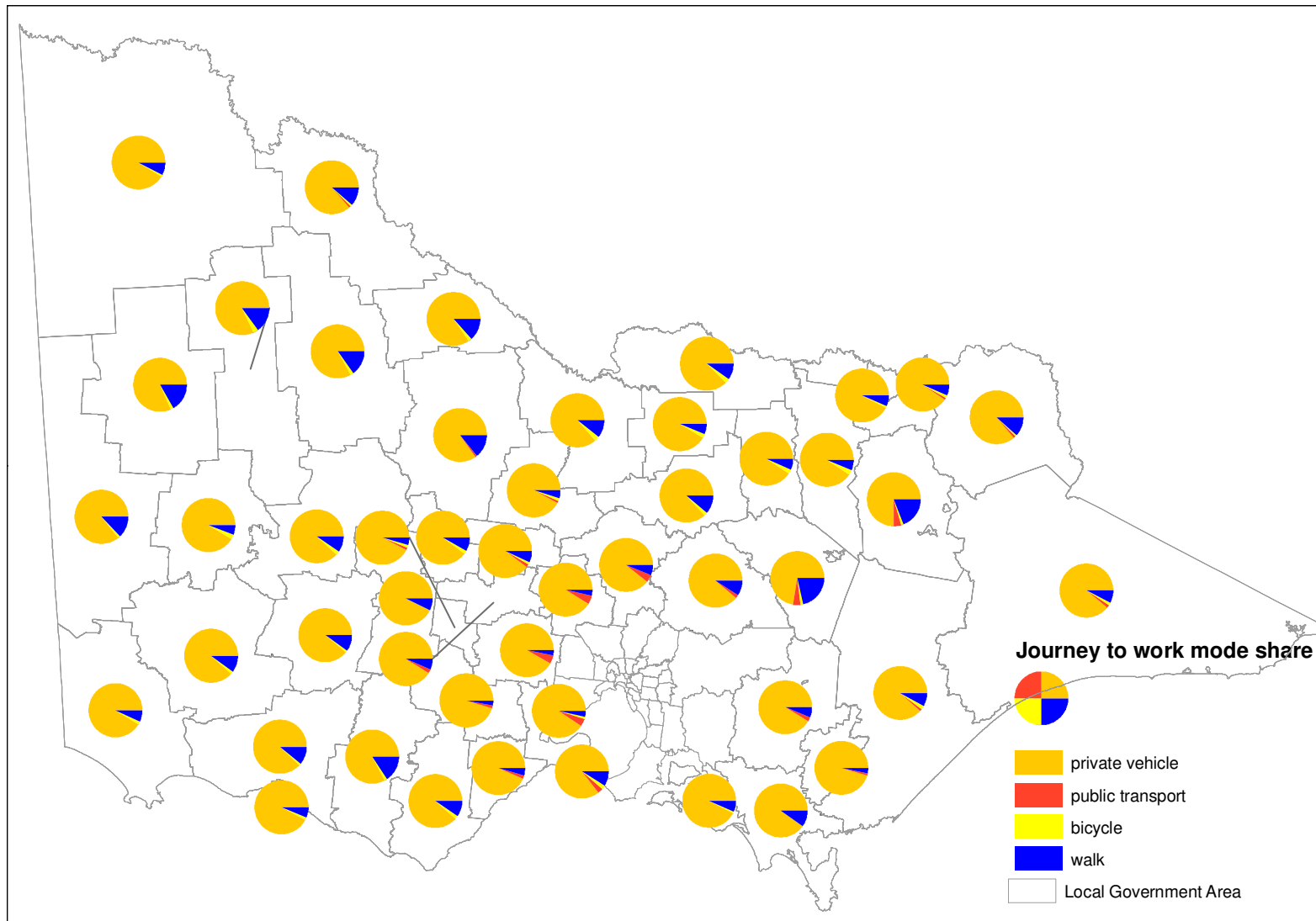


Figure 76: Journey to work mode share by origin of local government area, rest of Victoria 2001

Figure 77 and Figure 78 show the mode share of journey to work by destination of LGA in 2011 for the MSD and rest of Victoria respectively. Private vehicle was by far the dominant mode of travel to work to most LGAs in the MSD. The shares of public transport, bicycle and walk were generally small and only significant in the City of Melbourne and some inner suburbs. In fact, most journeys to work to the City of Melbourne were by public transport with a mode share of more than 50%.

For the rest of Victoria, private vehicle was the dominant mode of travel to work to all LGAs. Walking was the second most common mode of travel to work. The shares of public transport and bicycles were generally low for the rest of Victoria.

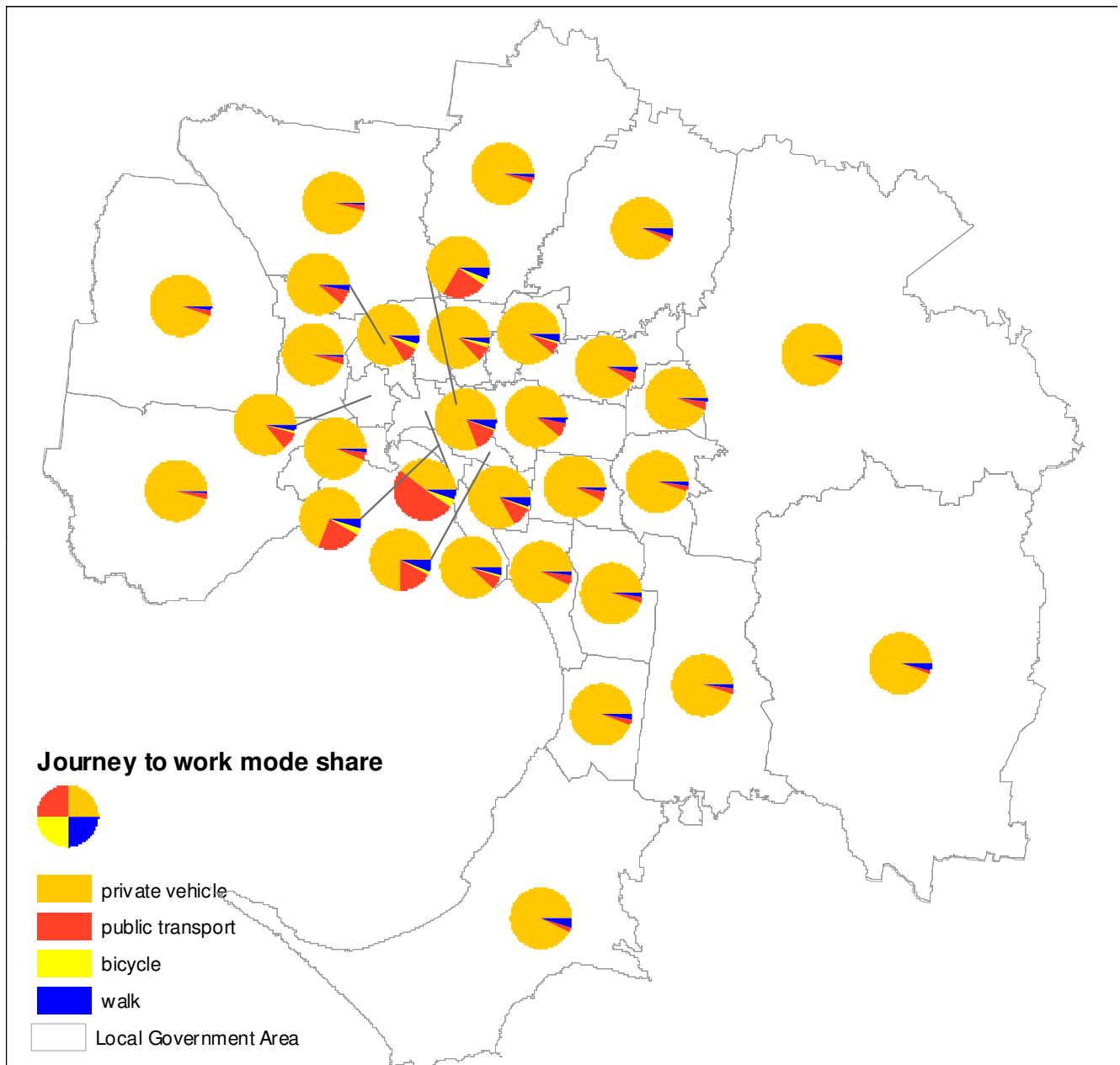


Figure 77: Journey to work mode share by destination of local government area, Melbourne Statistical Division 2011

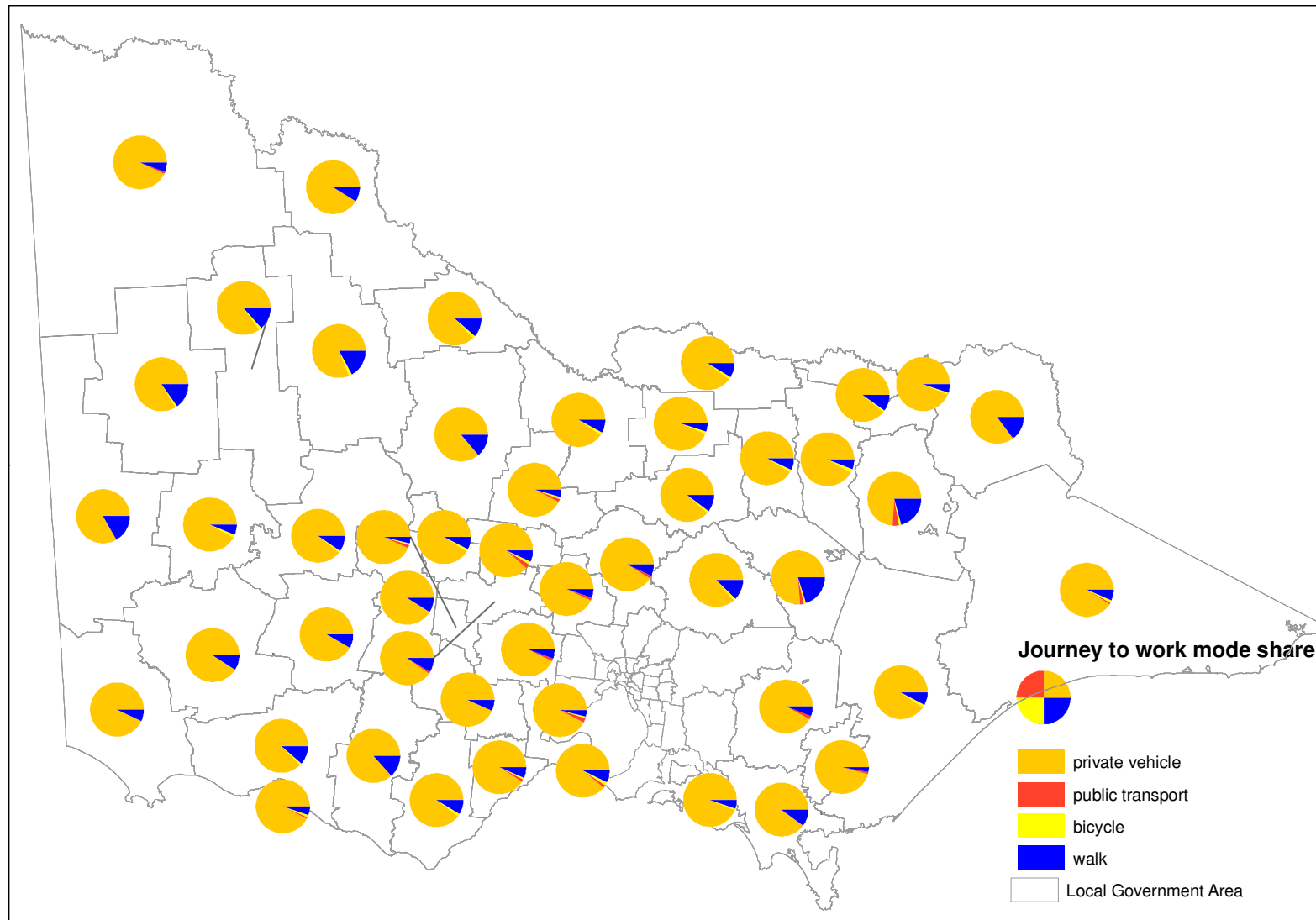


Figure 78: Journey to work mode share by destination of local government area, rest of Victoria 2011

Figure 79 and Figure 80 show the mode share of journey to work by destination of LGA in 2001 for the MSD and rest of Victoria respectively. The spatial pattern was similar to that in 2011. As in 2011, the shares of public transport, bicycle and walk were significant in the City of Melbourne and inner suburbs. However, they were generally lower than those in 2011. Almost 50% of the journeys to work to the City of Melbourne were by private vehicle in 2001.

The spatial pattern of mode share for the rest of Victoria was also similar to that for 2011. Private vehicle was the dominant mode of travel. Walking was the second most common mode of travel, although the mode share was generally higher than that in 2011. As in 2011, the shares of public transport and bicycle were generally low for the rest of Victoria.

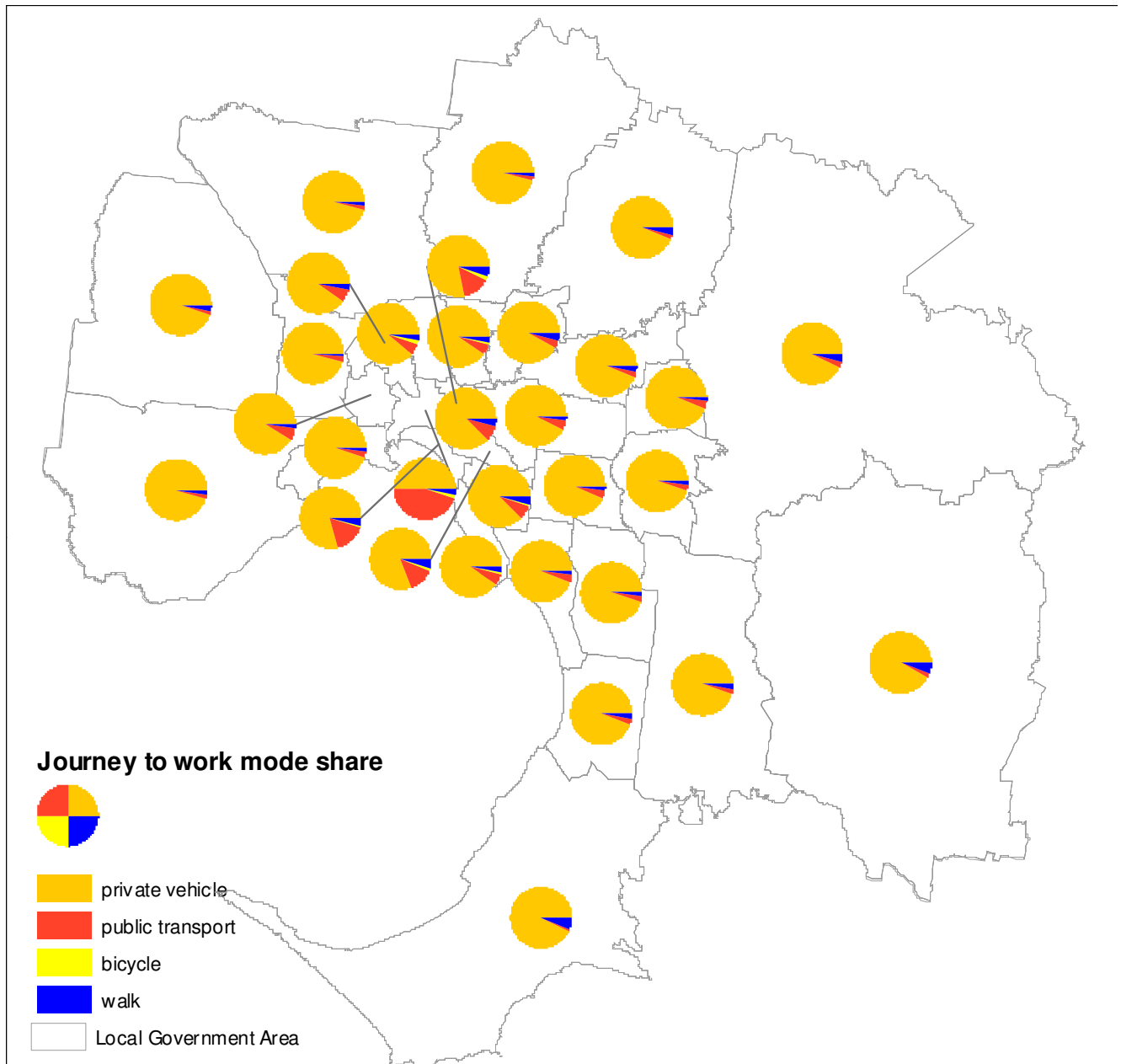


Figure 79: Journey to work mode share by destination of local government area, Melbourne Statistical Division 2001

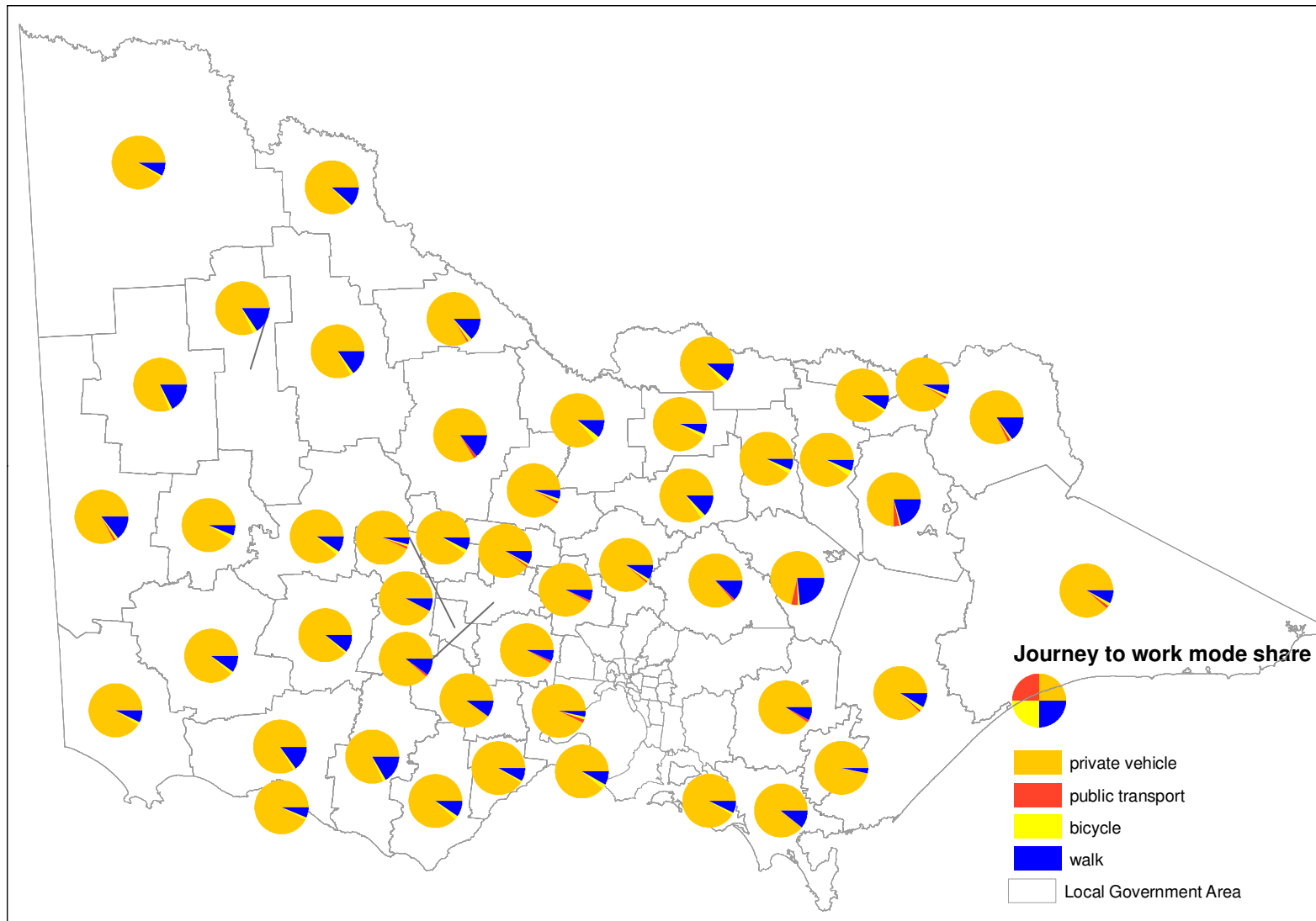


Figure 80: Journey to work mode share by destination of local government area, rest of Victoria 2001

4.2 Private Vehicles

Figure 81 and Figure 82 show the journeys to work by private vehicle mode and year in the MSD and rest of Victoria respectively. Most of these private vehicle trips were undertaken by people as car drivers. In the MSD, about 92% of journey to work car trips were undertaken by drivers in 2001. This increased to about 93% in 2011. For the rest of Victoria, about 91% of journey to work car trips were undertaken by drivers in 2001, which increased to about 92% in 2011.

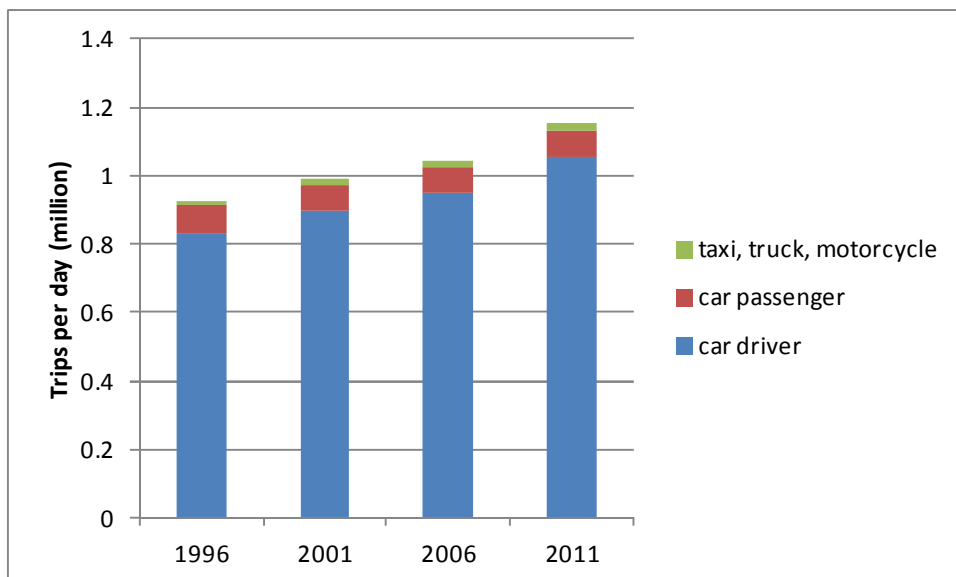


Figure 81: Journeys to work by private vehicle mode and year, Melbourne Statistical Division

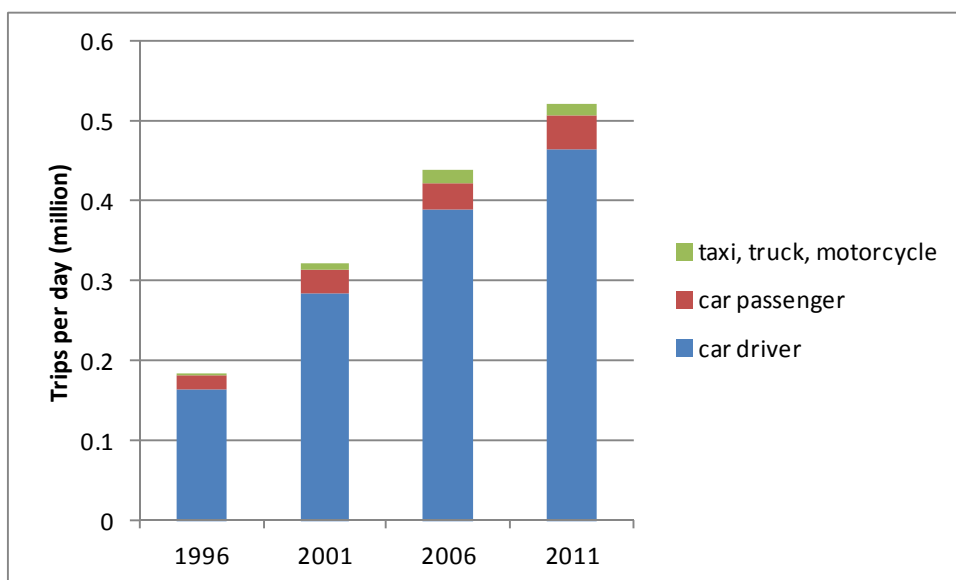


Figure 82: Journeys to work by private vehicle mode and year, rest of Victoria

Figure 83 and Figure 84 show the share of journeys to work by private vehicle by origin of statistical local area (SLA) in 2011 for the MSD and Victoria respectively. SLA is a general purpose spatial unit adopted by the Australian Bureau of Statistics to disseminate statistics. Each LGA typically consists of two to three SLAs, which would give more spatially disaggregated information than a LGA.

Figure 83 shows that the dependency of cars generally increased with increasing distance from the City of Melbourne as the likelihood of working in the City of Melbourne also decreases with distance. Most of the Cities of Whittlesea, Yarra Ranges, Casey and Cardinia had very high dependency of cars with a share of 90% or over reflecting where the residents work.

The dependency of cars was generally high throughout country Victoria. Some parts of Golden Plains, Greater Bendigo, Latrobe and East Gippsland had a mode share of car of 95% or over.

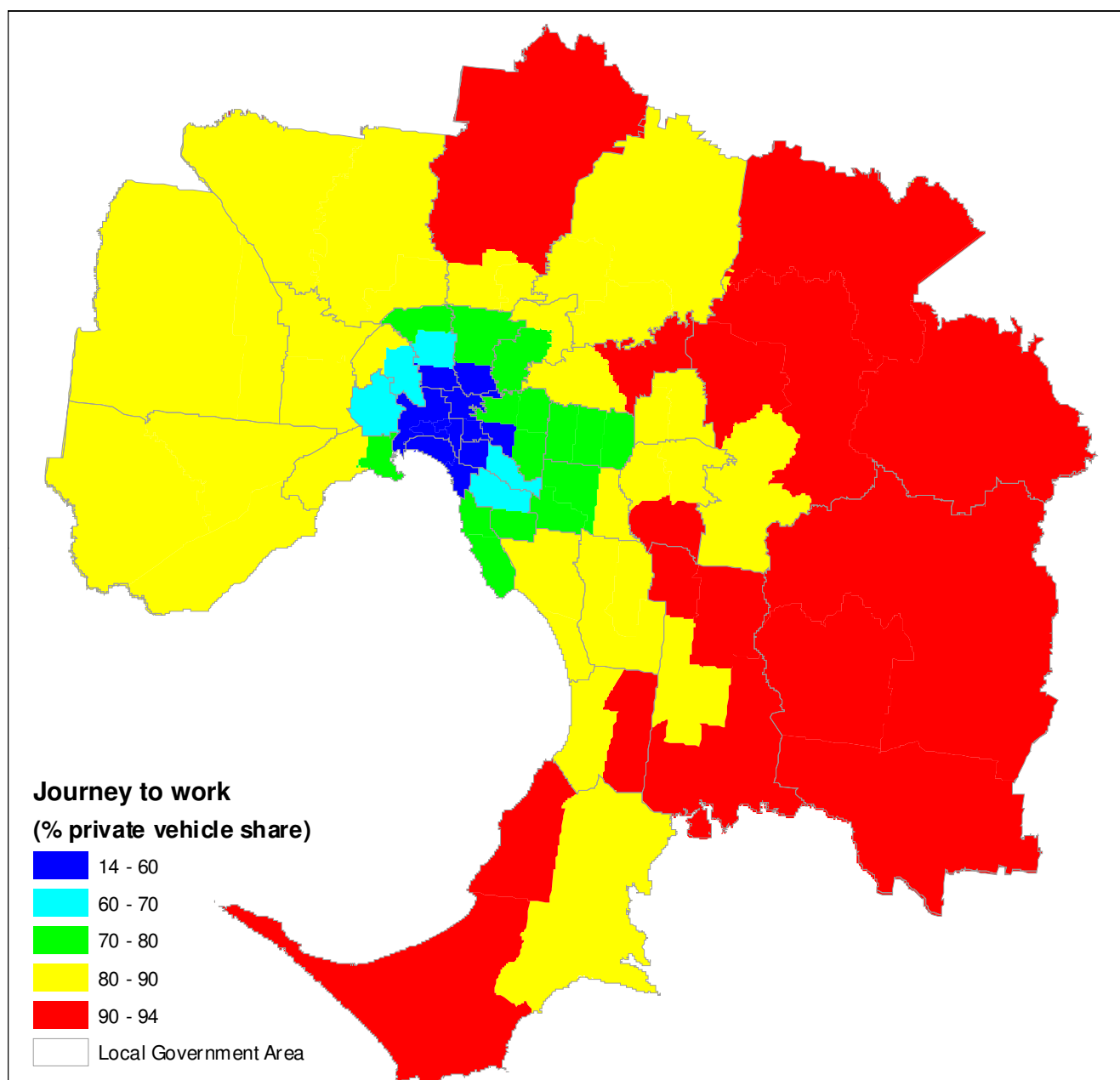


Figure 83: Private vehicle share by origin of statistical local area, Melbourne Statistical Division 2011

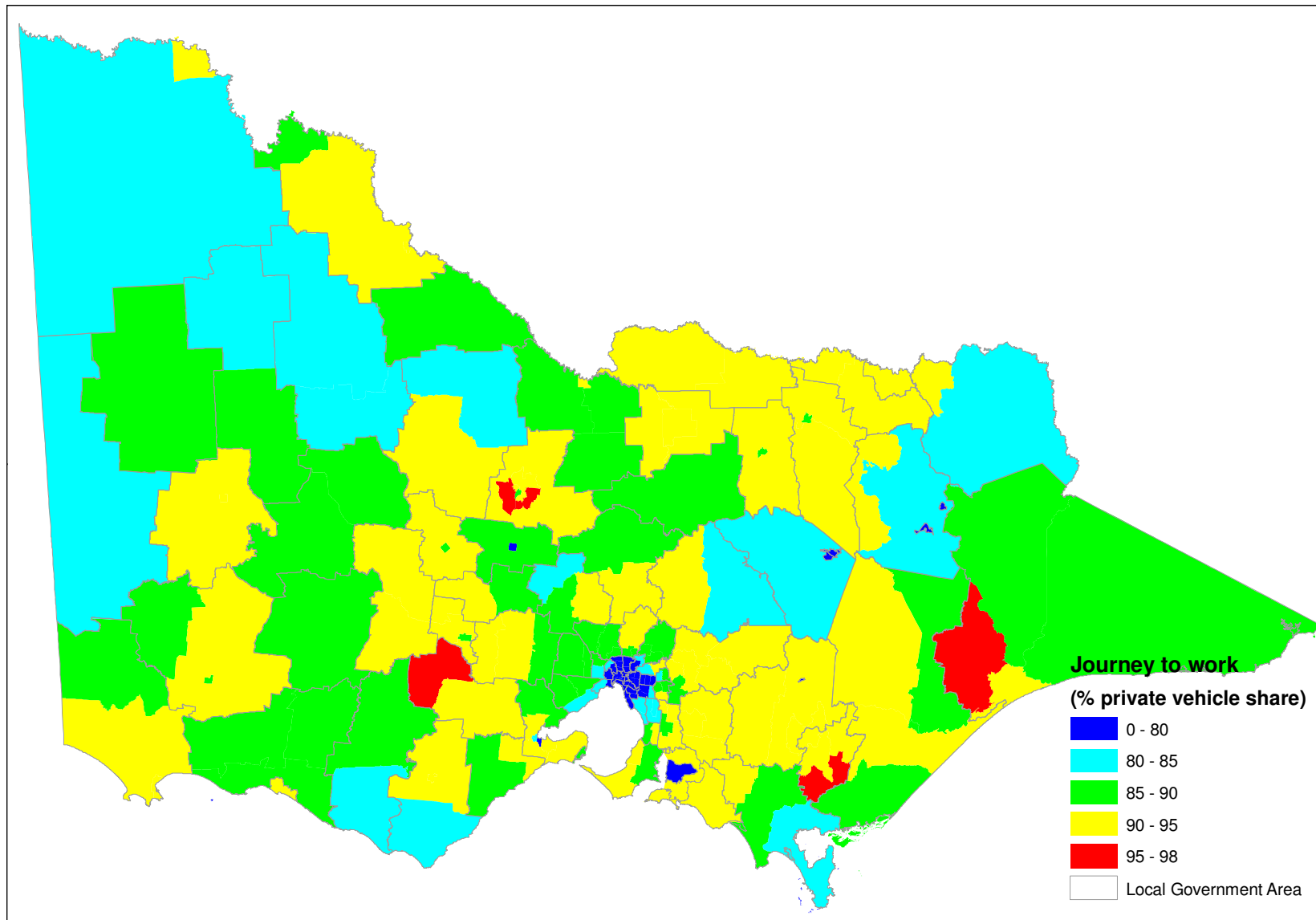


Figure 84: Private vehicle share by origin of statistical local area, Victoria 2011

Figure 85 shows the share of journeys to work to the CBD by private vehicle by origin of SLA in 2011. The mode shares of private vehicles to the CBD were all under 50%. However, the mode share did not necessarily increase with increasing distance. For example, Manningham and some parts of Boroondara and Moonee Valley had the highest mode share of private vehicles to the CBD despite being close to the CBD. On the other hand, some parts of Casey and Greater Dandenong had low share of private vehicles to the CBD despite being far from the CBD. The mode share of private vehicles to the CBD was influenced more by the availability of public transport, particularly rail, than the distance from the CBD.

Although the mode share of private vehicles to the CBD was low in Casey and Greater Dandenong, the overall private vehicle share was high in these areas (see Figure 83). This is because most of their journeys to work were taken by private vehicles to nearby suburbs (see Figure 63).

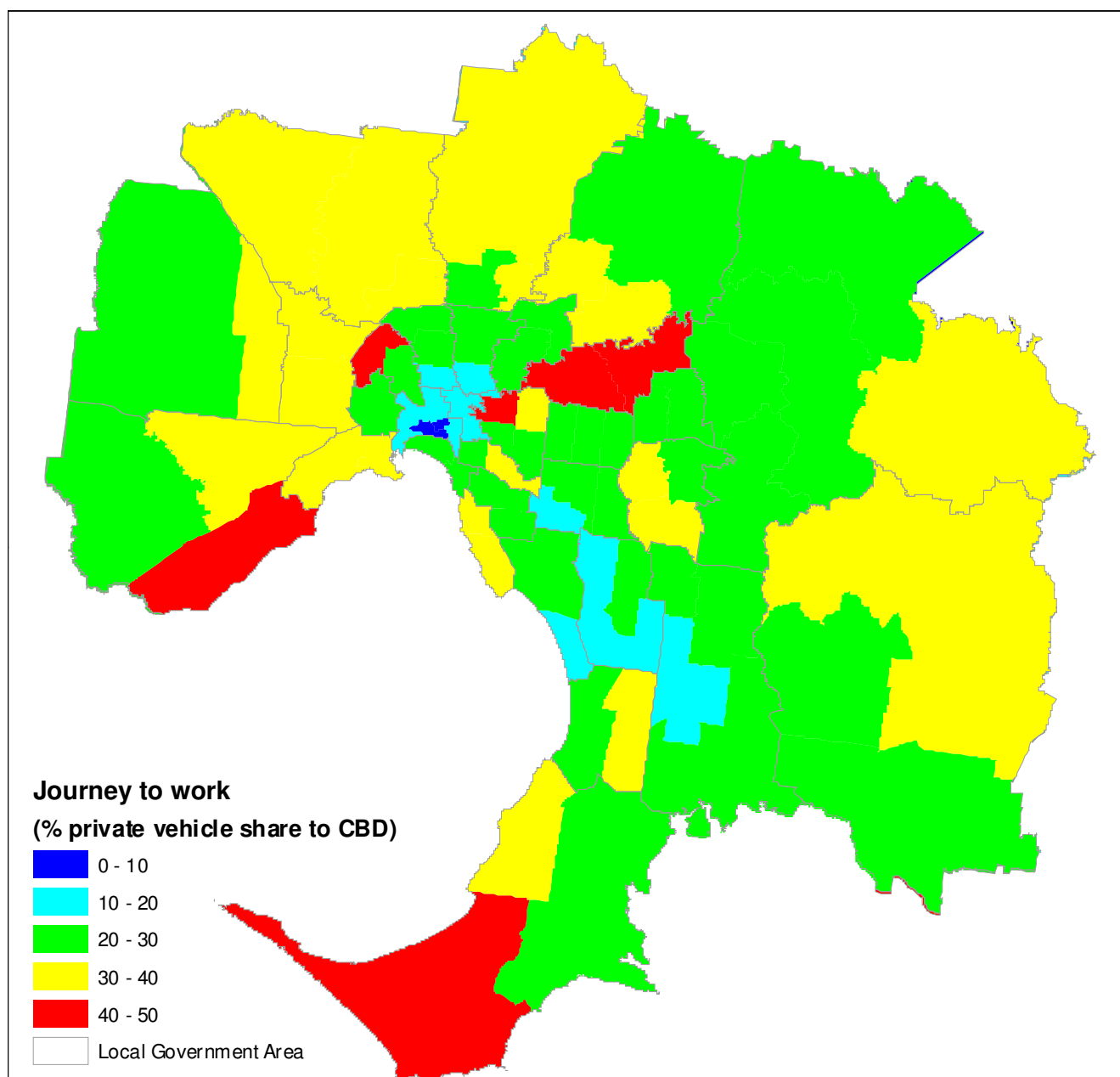


Figure 85: Private vehicle share to the CBD by origin of statistical local area, Melbourne Statistical Division 2011

Figure 86 and Figure 87 show the share of journeys to work by private vehicle by origin of SLA in 2001 for the MSD and Victoria respectively. The pattern in the MSD was similar to that in 2011, although the mode share of private vehicles was generally higher in 2001.

In contrast to the MSD, the mode share of private vehicles for the rest of Victoria was generally lower in 2001. However, the areas of highest and lowest private vehicle share did not change much between 2001 and 2011.

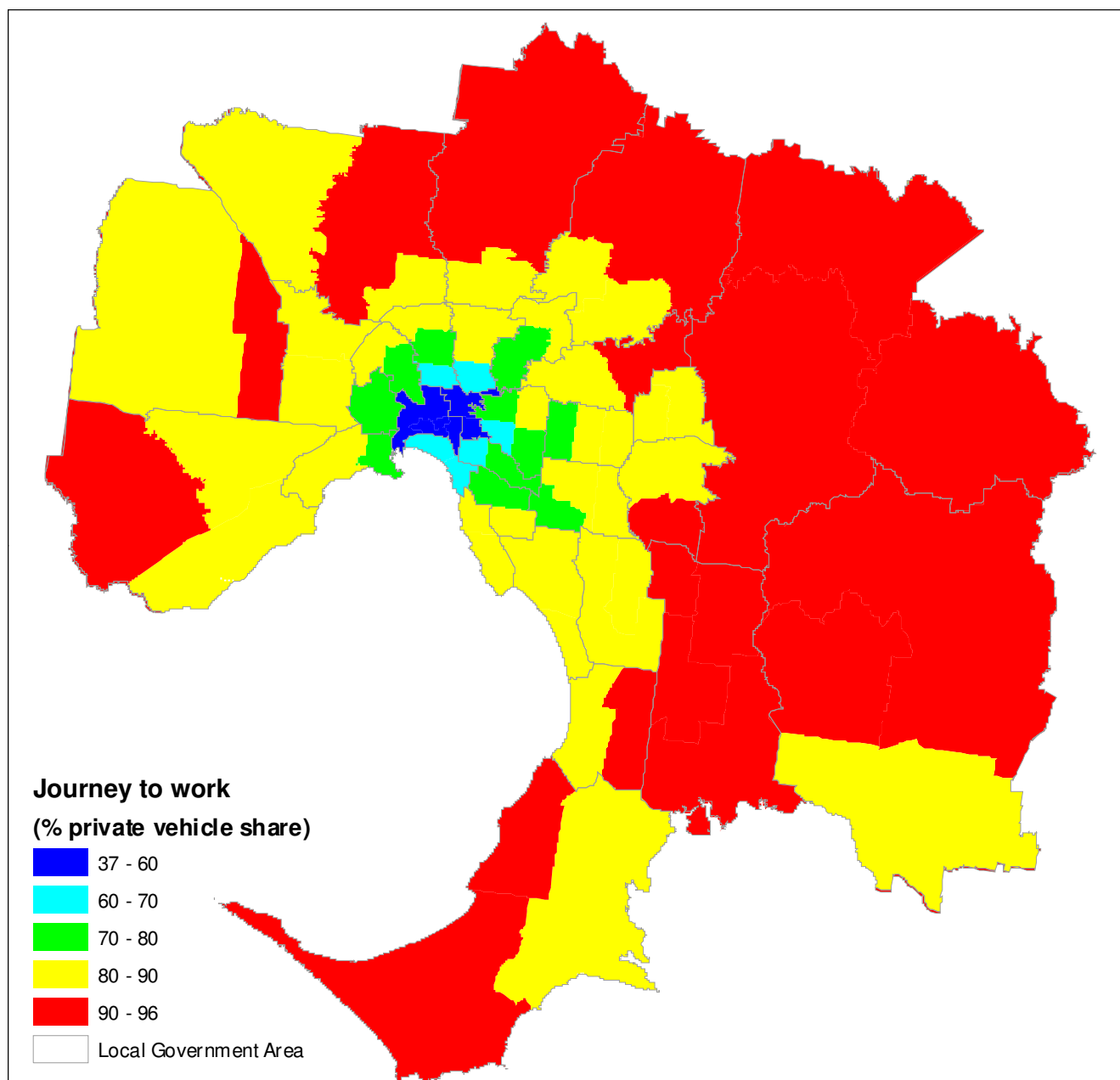


Figure 86: Private vehicle share by origin of statistical local area, Melbourne Statistical Division 2001

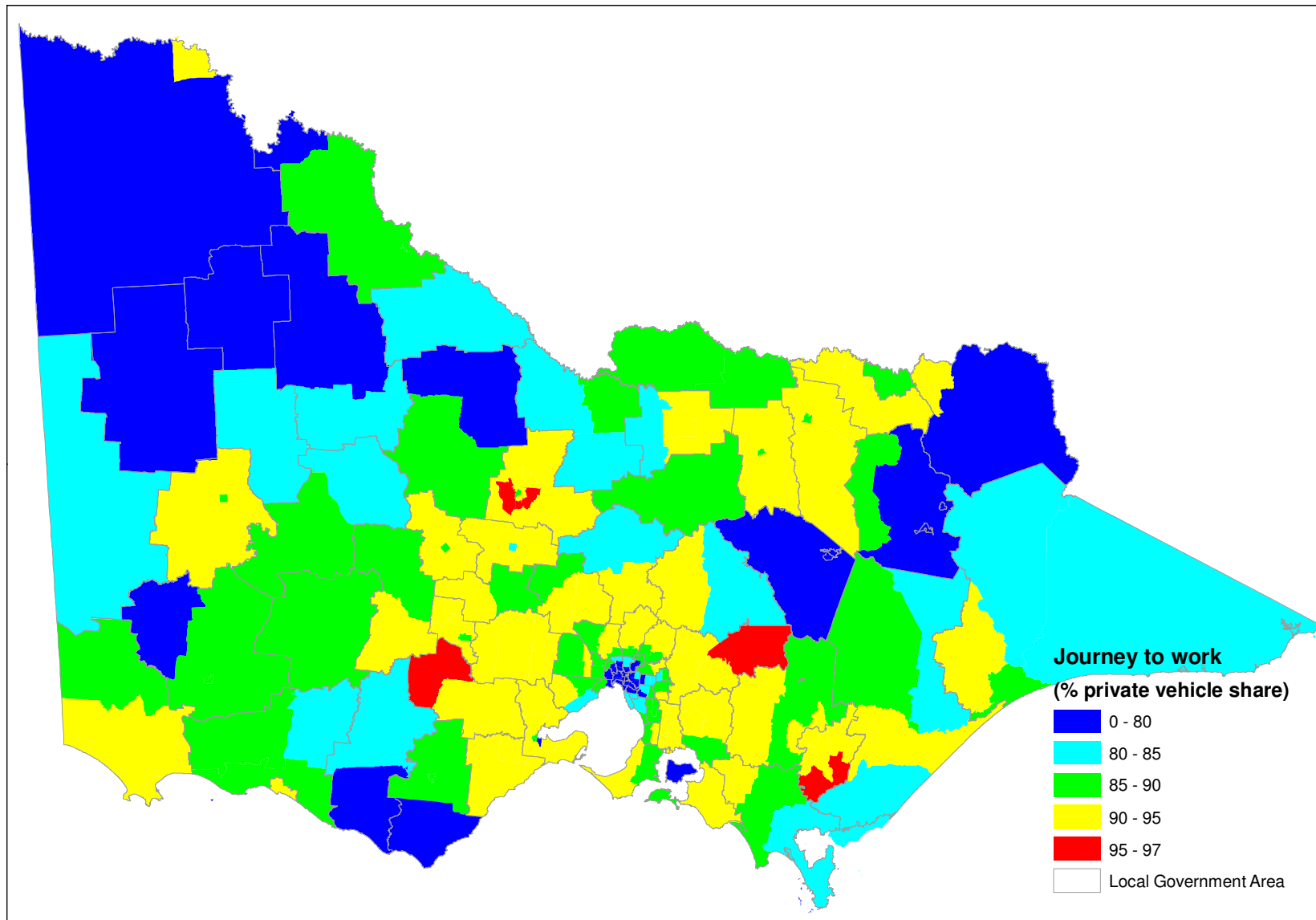


Figure 87: Private vehicle share by origin of statistical local area, Victoria 2001

Figure 88 shows the share of journeys to work to the CBD by private vehicle by origin of SLA in 2001. The mode share of private vehicles was significantly higher in 2001, particularly from the outer LGAs, such as Wyndham, Nillumbik and Casey. As in 2011, the mode share did not necessarily increase with increasing distance but was influenced more by the availability of public transport.

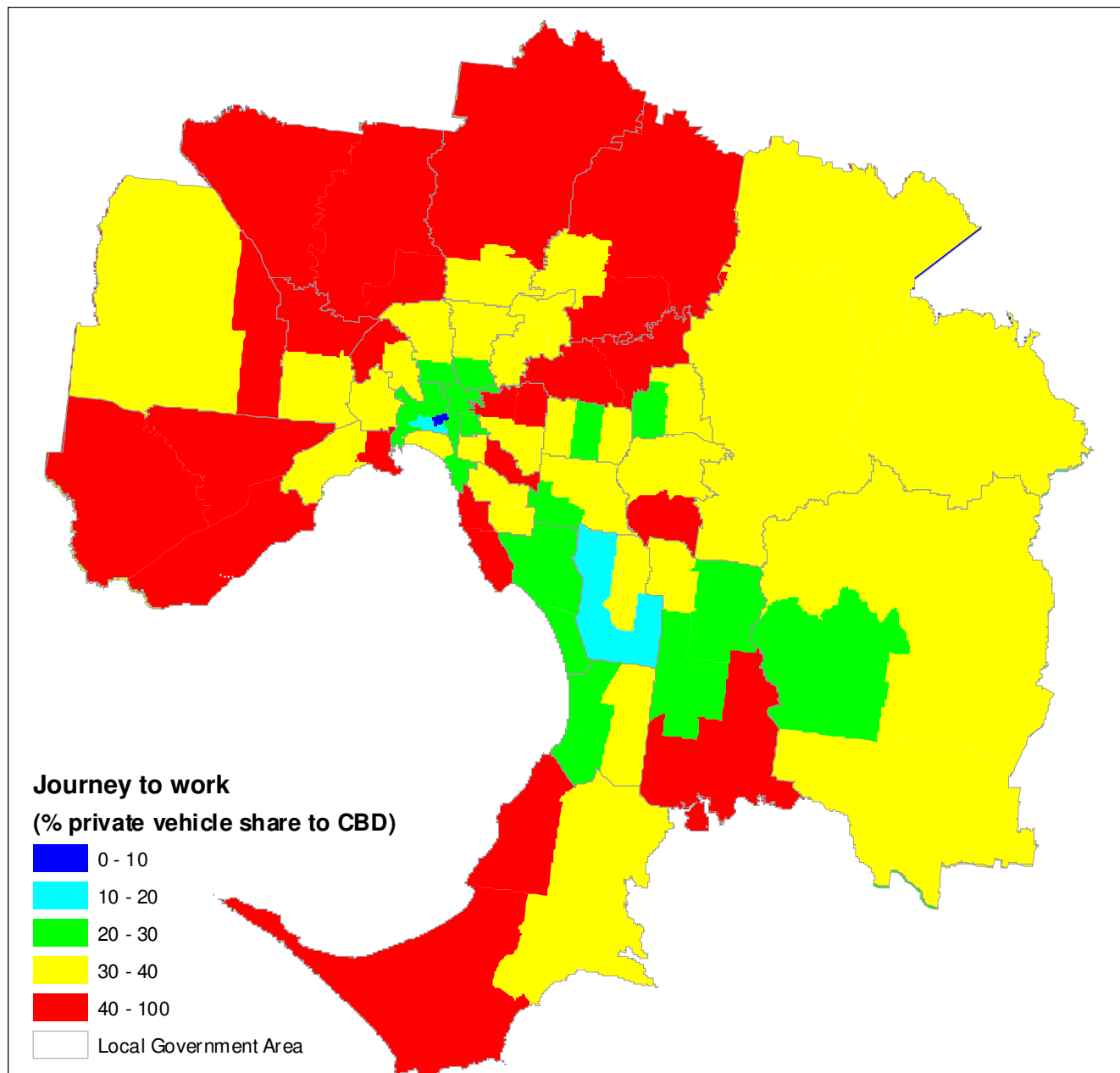


Figure 88: Private vehicle share to the CBD by origin of statistical local area, Melbourne Statistical Division 2001

4.3 Public Transport

This section examines the mode share of public transport in detail. The following definitions are used for public transport mode:

- Park and ride = all public transport trips (as defined in Section 1) with a private vehicle driver or passenger leg

- Train = all trips with a train leg
- Bus = all trips with a bus leg, excluding trips with a train leg
- Tram = all trips with a tram leg, excluding trips with a train or bus leg

Figure 89 and Figure 90 show the total public transport and park & ride share of journeys to work by year for the MSD and rest of Victoria respectively. The park & ride share is with respect to all modes of travel. Both the total public transport and park & ride share increased between 1996 and 2011 in the MSD. About 15% of the public transport trips were park & ride in 2006. This was increased to about 18% in 2011.

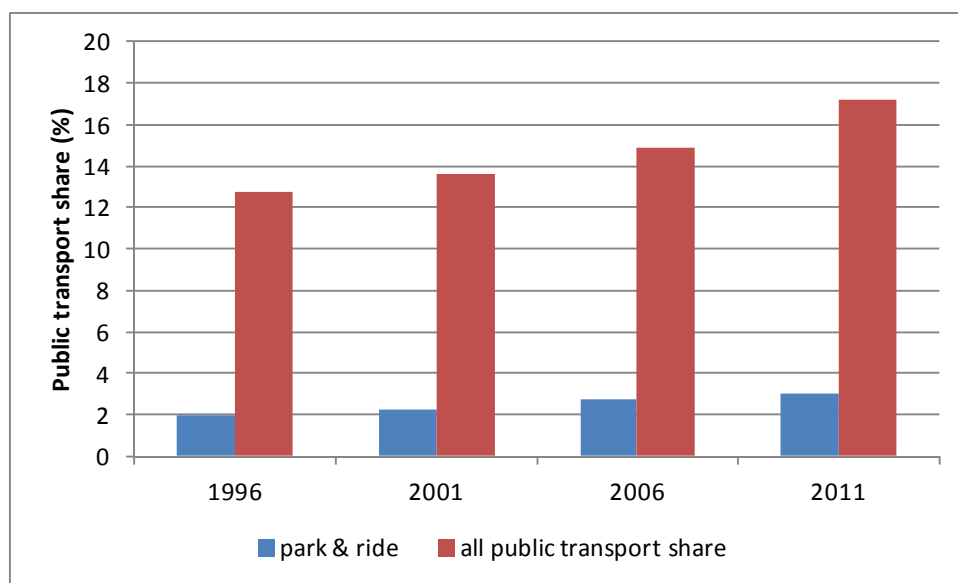


Figure 89: Public transport and park & ride share of journeys to work by year, Melbourne Statistical Division

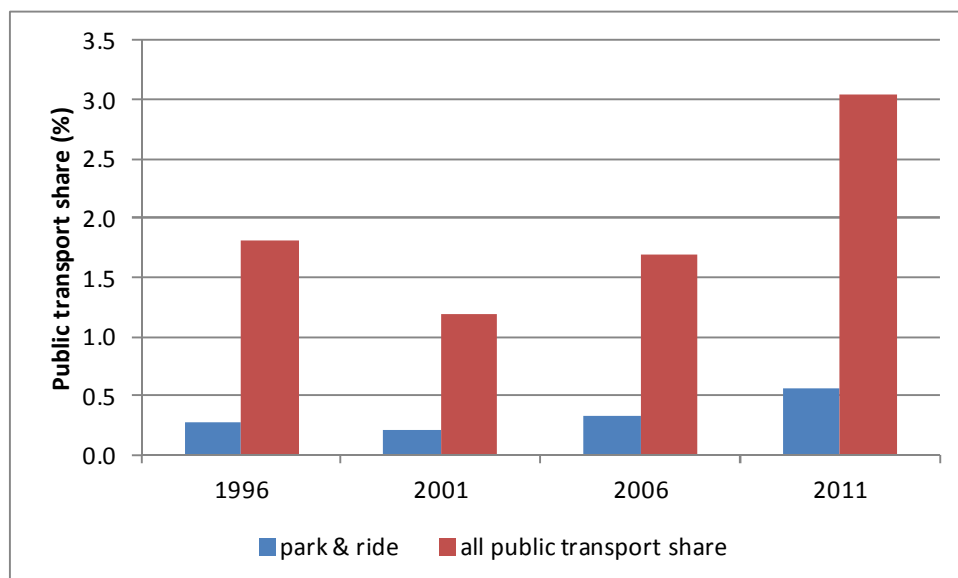


Figure 90: Public transport and park & ride share of journeys to work by year, rest of Victoria

For the rest of Victoria, the total public transport and park & ride share were at their lowest level in 2001. Similar to the MSD, about 15% of the public transport trips were park & ride in 2006, increasing to about 19% in 2011.

Figure 91 and Figure 92 show the journeys to work by public transport mode (train, bus and tram) and year for the MSD and rest of Victoria respectively. Most of the journeys to work by public transport were undertaken by train. In the MSD, the shares of train, bus and tram in public transport in 1996 were 70%, 13% and 17% respectively. In 2011, the share of train increased to 72%, bus dropped to 10% and tram stayed about the same at 17%.

For the rest of Victoria, bus was the dominant mode of public transport until 2011, when train became the dominant mode of public transport. The shares of train, bus and tram in 1996 were 31%, 60% and 9% respectively. These shares became 57%, 34% and 9% in 2011.

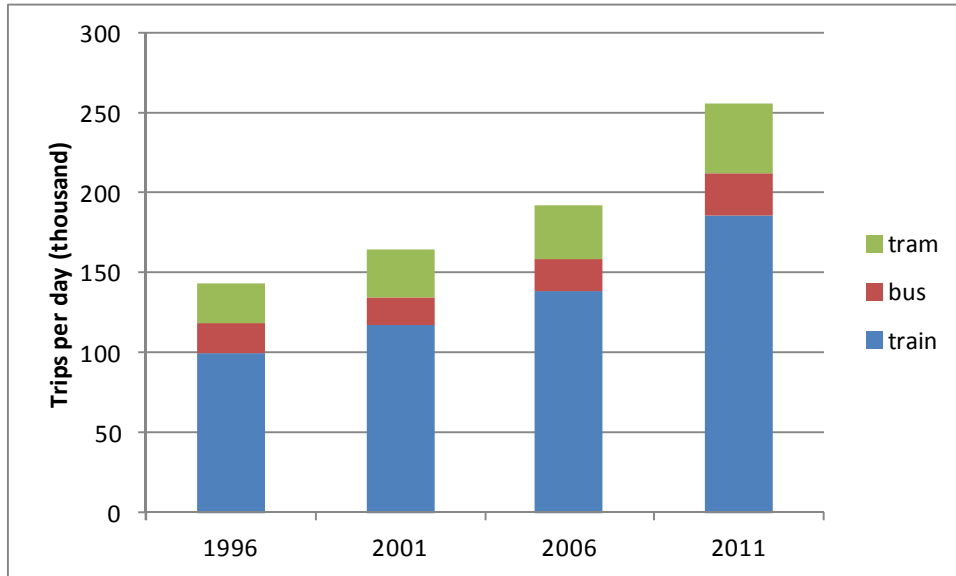


Figure 91: Journeys to work by public transport mode and year, Melbourne Statistical Division

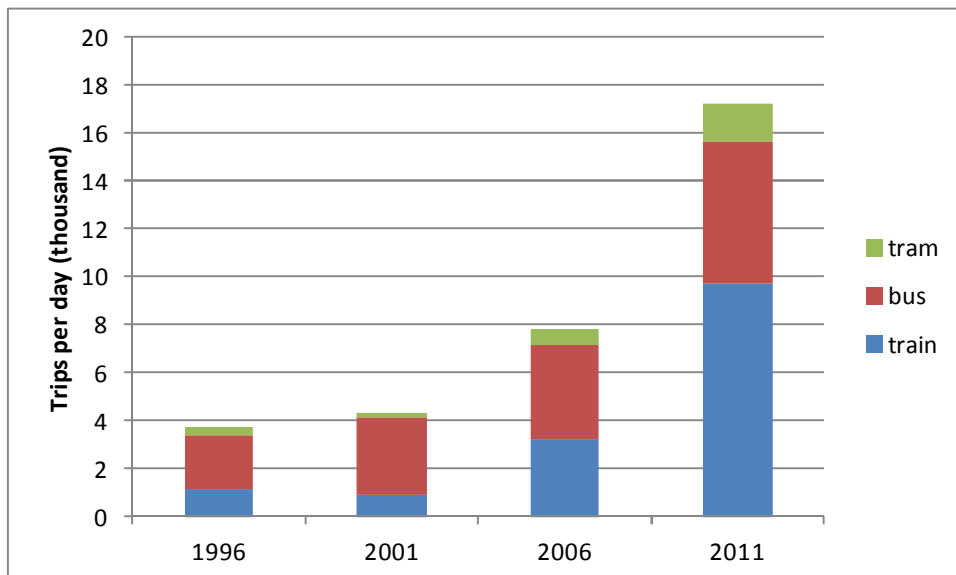


Figure 92: Journeys to work by public transport mode and year, rest of Victoria

Figure 93 and Figure 94 show the public transport share by origin of SLA in 2011 for the MSD and Victoria respectively. The share of public transport in the MSD generally decreased with increasing distance from the City of Melbourne. This was also true for most of the rest of Victoria, although the share of public transport was significantly lower in country Victoria. For most of the western and north-western Victoria, the use of public transport was very low with a mode share of 1% or less. The use of public transport is highly correlated with working in the CBD.

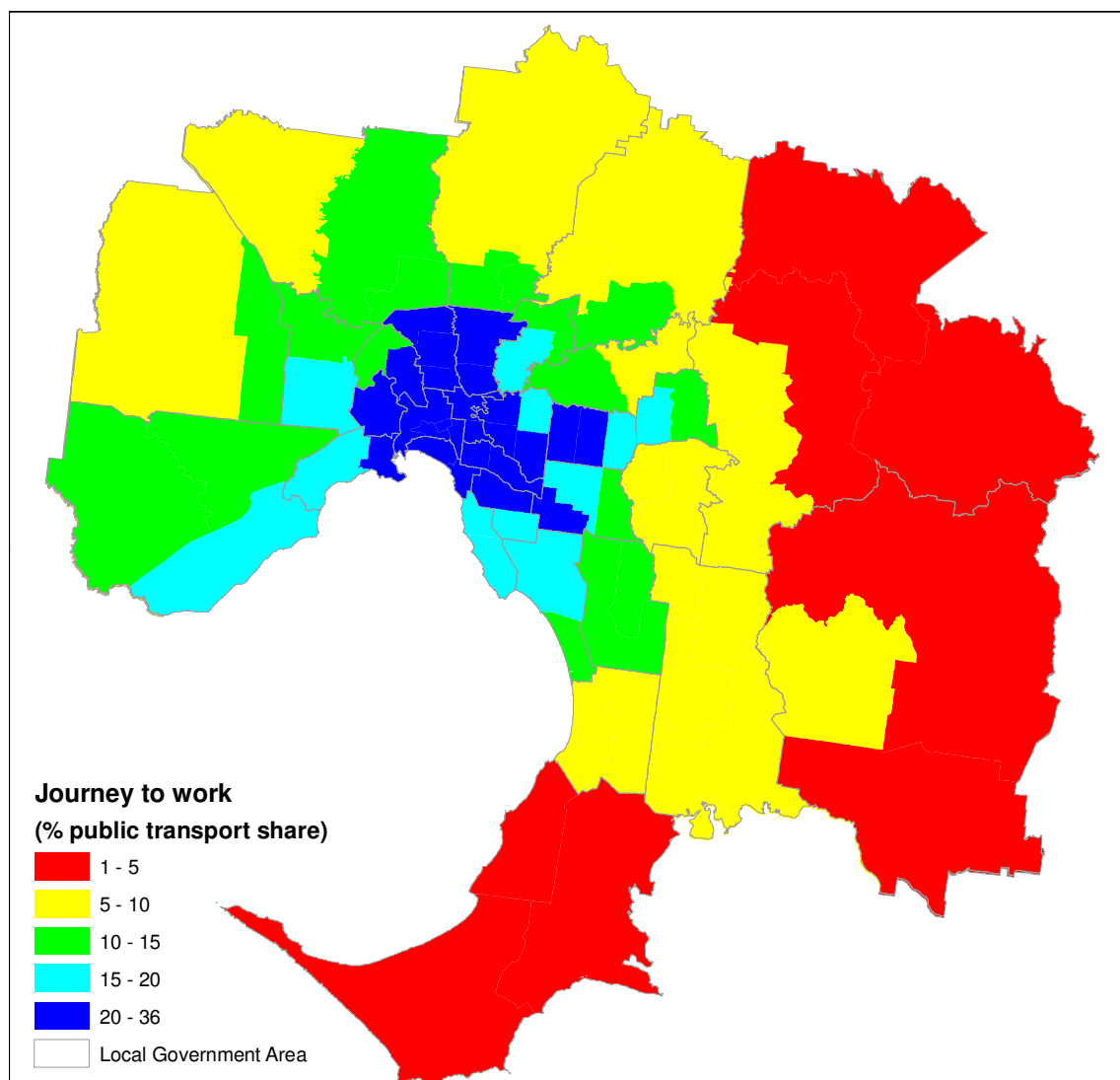


Figure 93: Public transport share by origin of statistical local area, Melbourne Statistical Division 2011

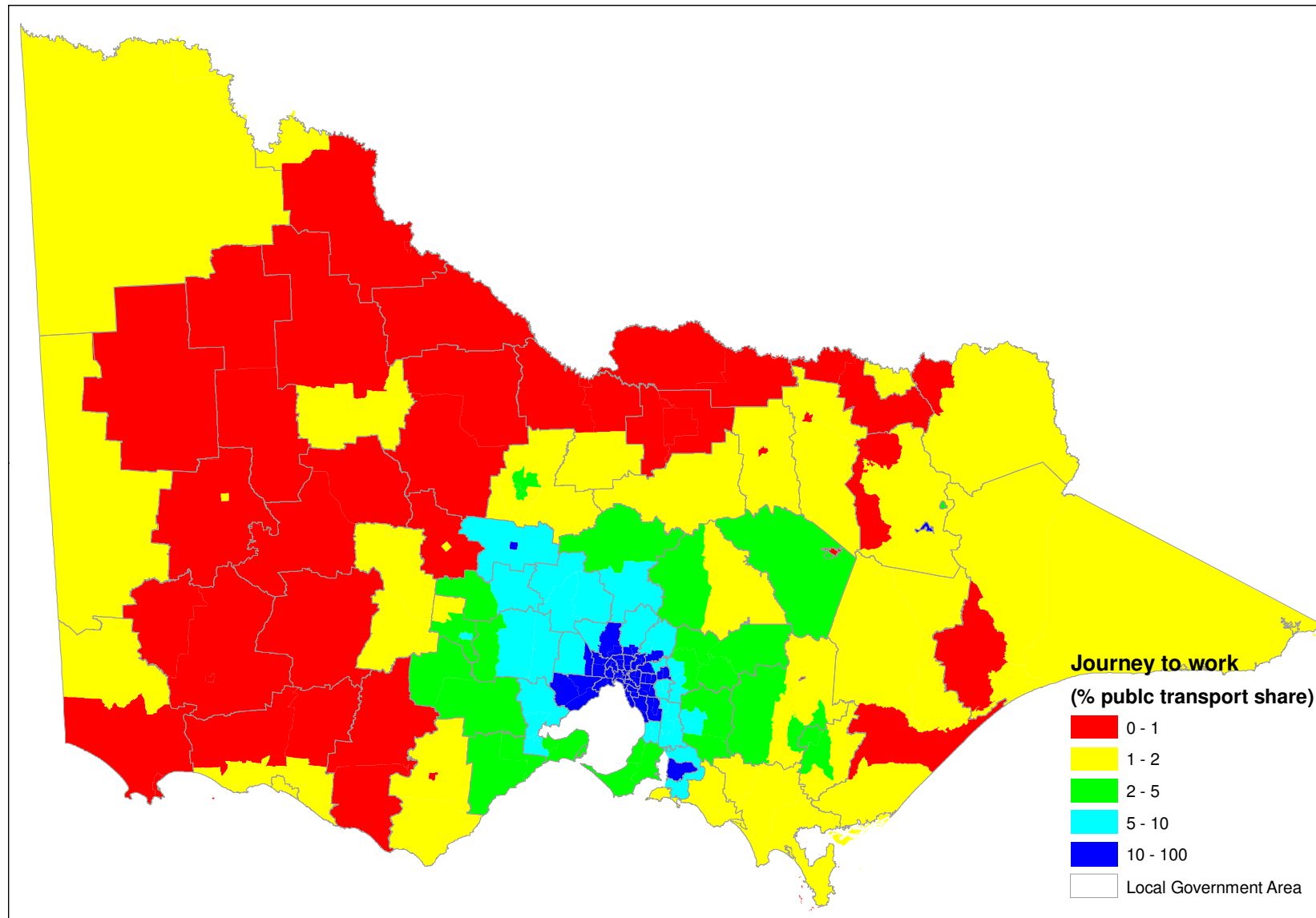


Figure 94: Public transport share by origin of statistical local area, Victoria 2011

Figure 95 shows the public transport share of journeys to work to the CBD by origin of SLA in 2011. The southern and south-eastern suburbs in the MSD, from Frankston to Pakenham, had the highest share of public transport to the CBD. On the other hand, the eastern suburbs, in Manningham and some parts of Boroondara and Yarra, had among the lowest share of public transport to the CBD. This was almost complementary to the private vehicle share (see Figure 85) as areas of low public transport use would have high private vehicle use. The City of Melbourne had by far the lowest mode share of public transport to the CBD as the majority of these journeys to work were undertaken by walking.

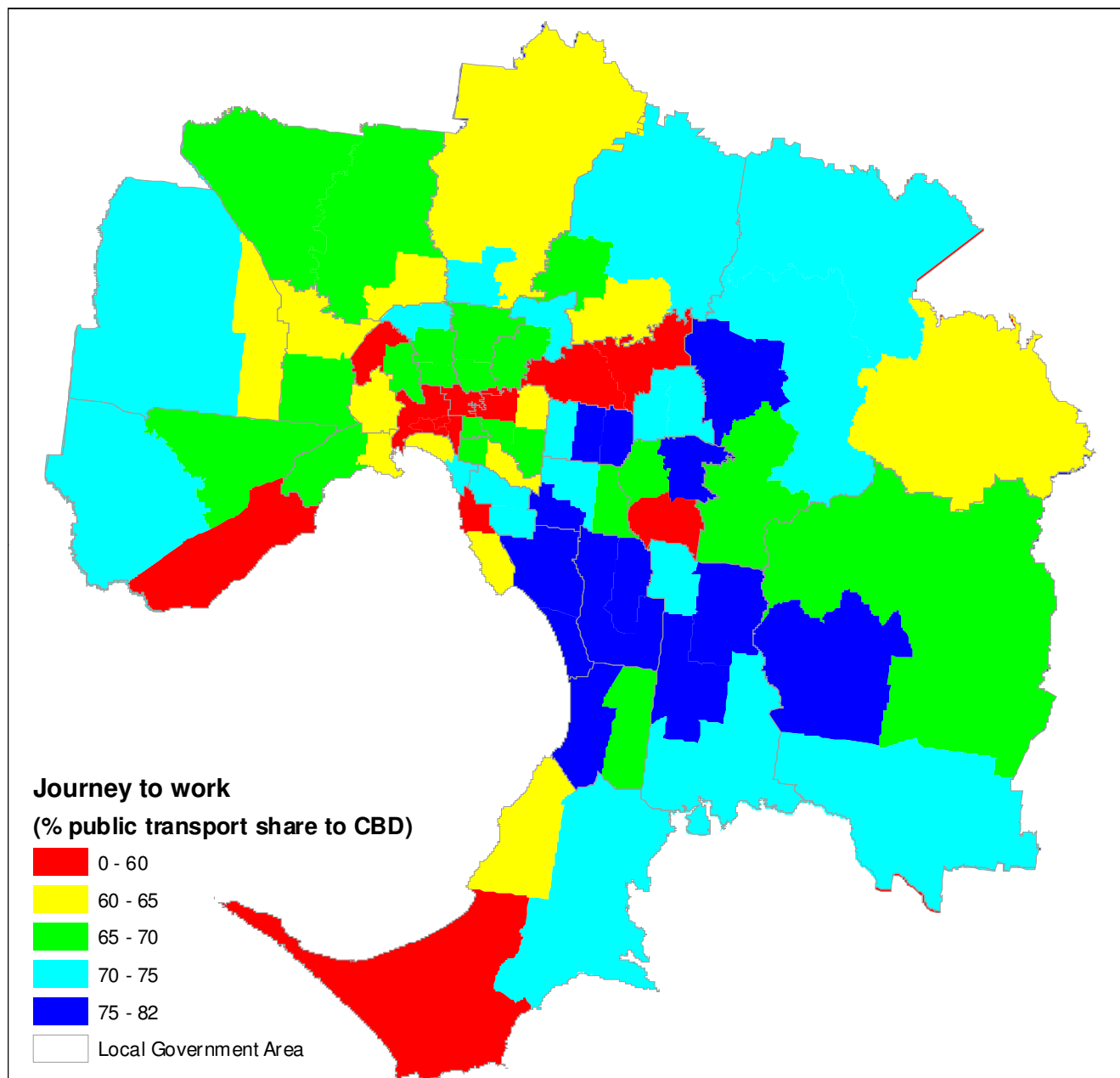


Figure 95: Public transport share to the CBD by origin of statistical local area, Melbourne Statistical Division 2011

Figure 96 and Figure 97 show the public transport share by origin of SLA in 2001 for the MSD and Victoria respectively. As in 2011, the share of public transport in the MSD generally decreased with increasing distance from the City of Melbourne, although the mode share was lower in 2001.

For the rest of Victoria, areas surrounding the MSD and some parts of eastern Victoria generally had higher public transport share. However, for most of country Victoria, the use of public transport was very low with a mode share of 1% or less.

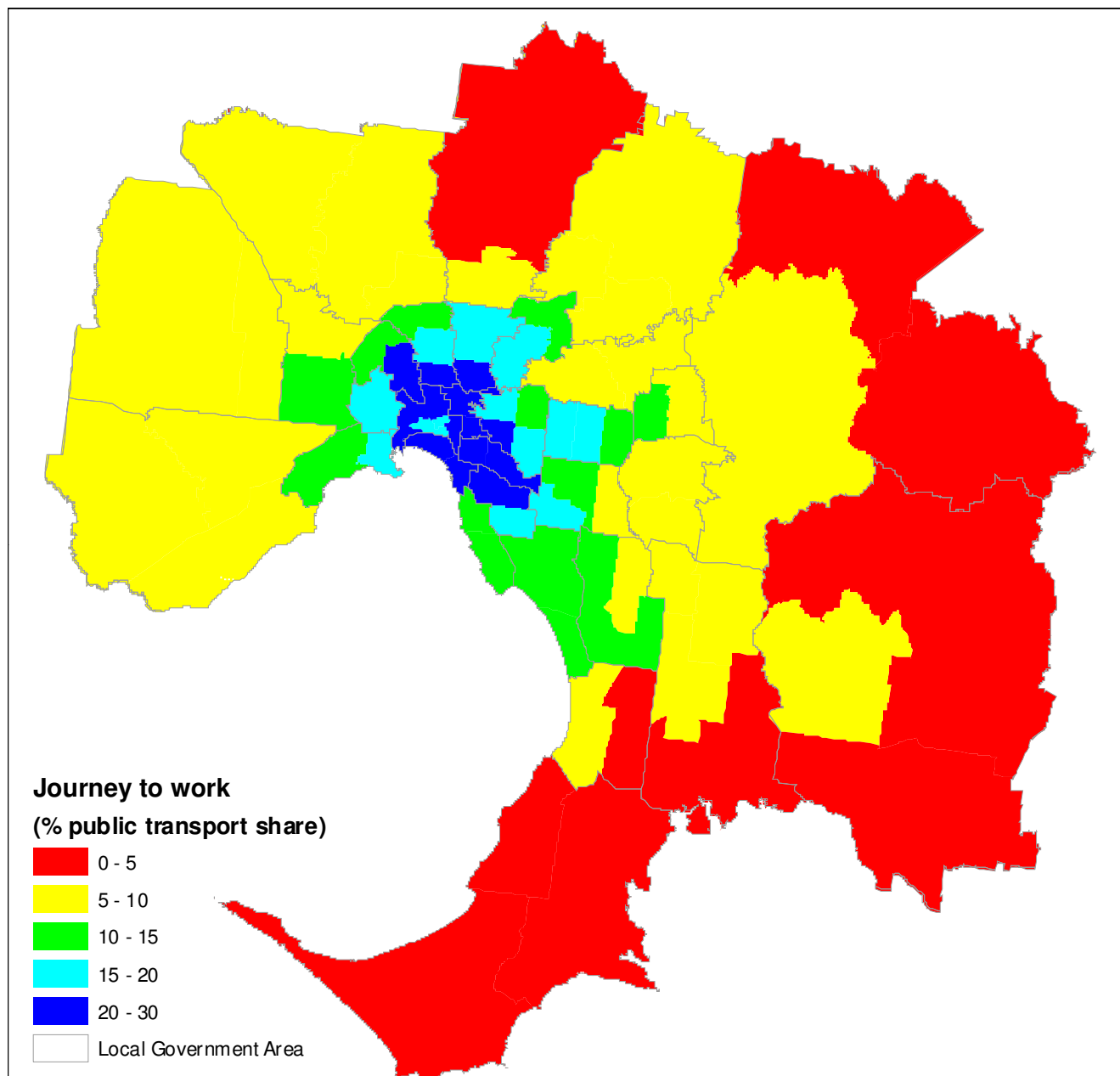


Figure 96: Public transport share by origin of statistical local area, Melbourne Statistical Division 2001

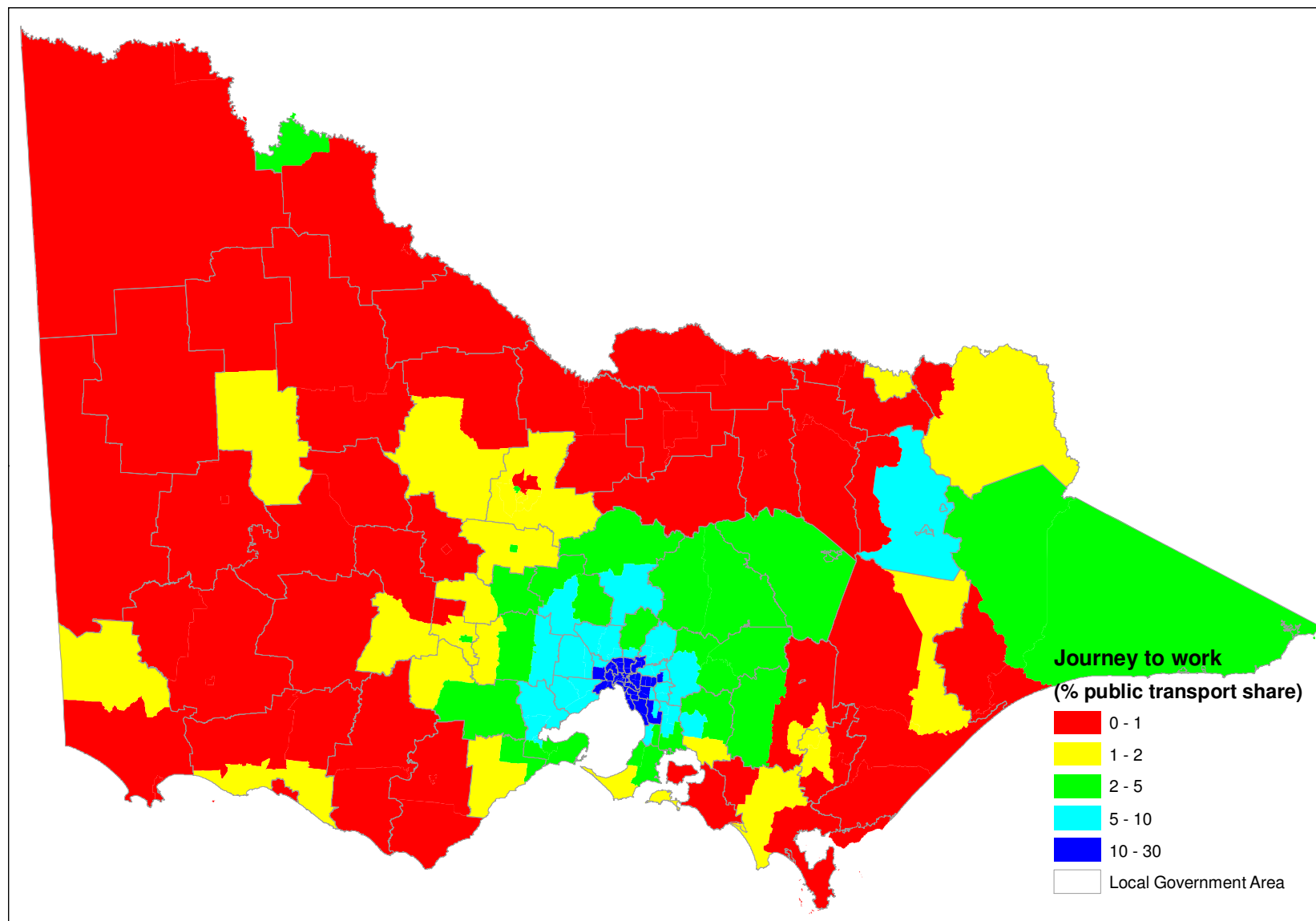


Figure 97: Public transport share by origin of statistical local area, Victoria 2001

Figure 98 shows the public transport share of journeys to work to the CBD by origin of SLA in 2001. The mode share was significantly lower than that in 2011. Some parts of Greater Dandenong and Monash had a public transport share of 75% or more to the CBD. The spatial distribution of public transport share was almost complementary to that of private vehicle share (see Figure 88) as areas of low public transport use would have high private vehicle use.

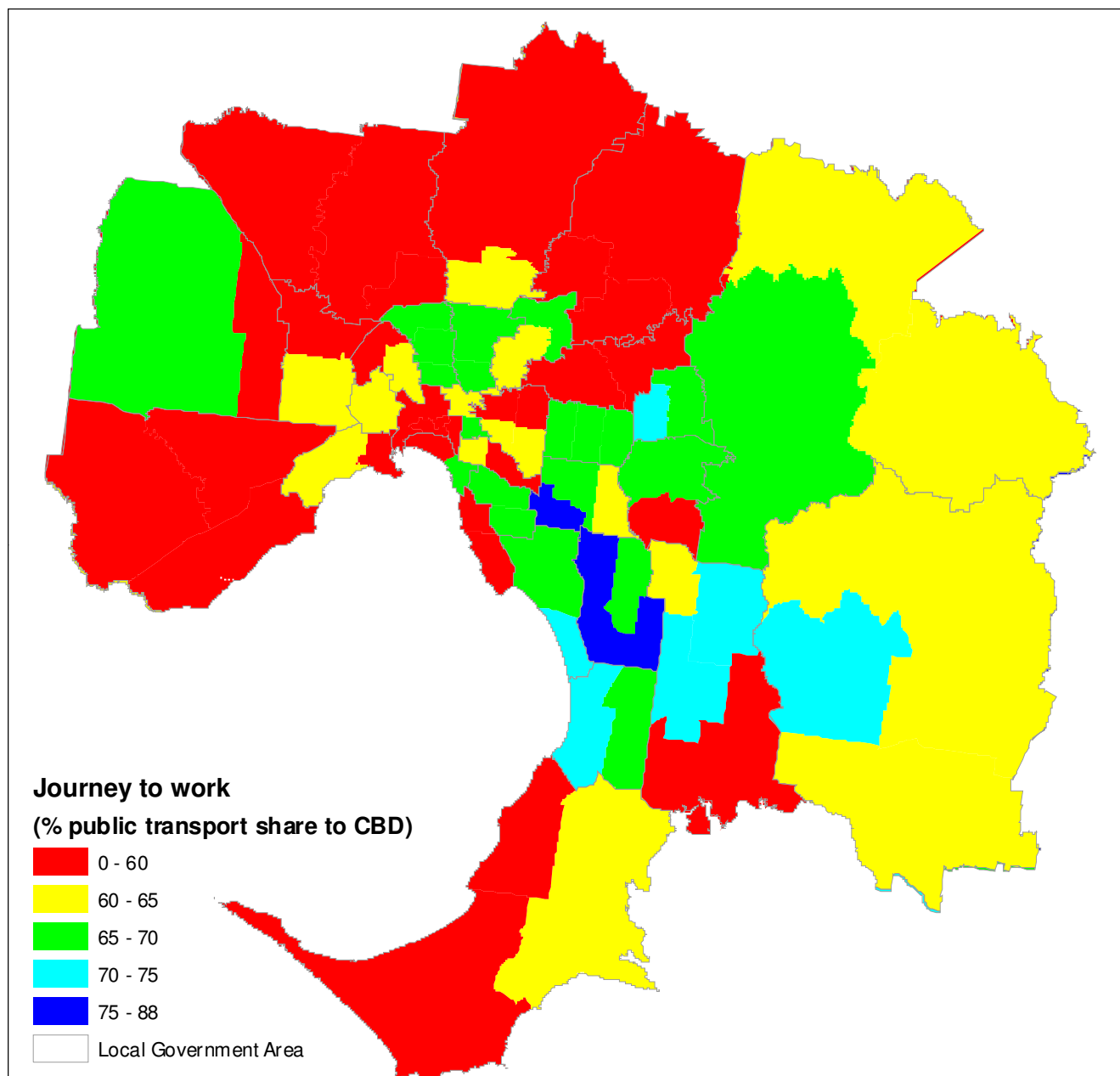


Figure 98: Public transport share to the CBD by statistical local area, Melbourne Statistical Division 2001

4.4 Bicycles

Figure 99 and Figure 100 show the bicycle share by origin of SLA in 2011 for the MSD and Victoria respectively. The bicycle share was only significant in inner suburbs and some parts of southern suburbs in the MSD. For most of the MSD the share of bicycle was generally very low, actually lower than most parts of the rest of Victoria.

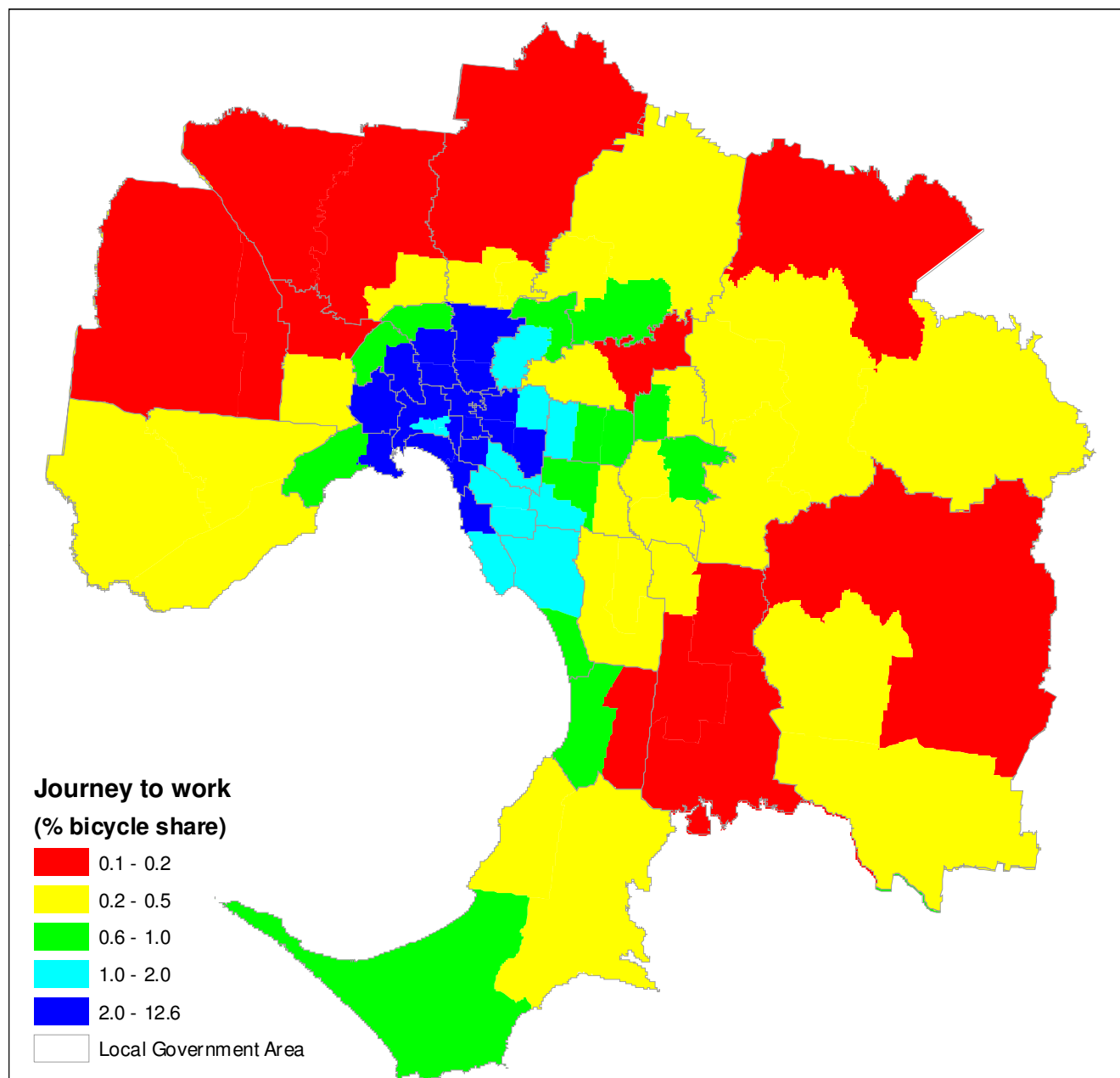


Figure 99: Bicycle share by origin of statistical local area, Melbourne Statistical Division 2011

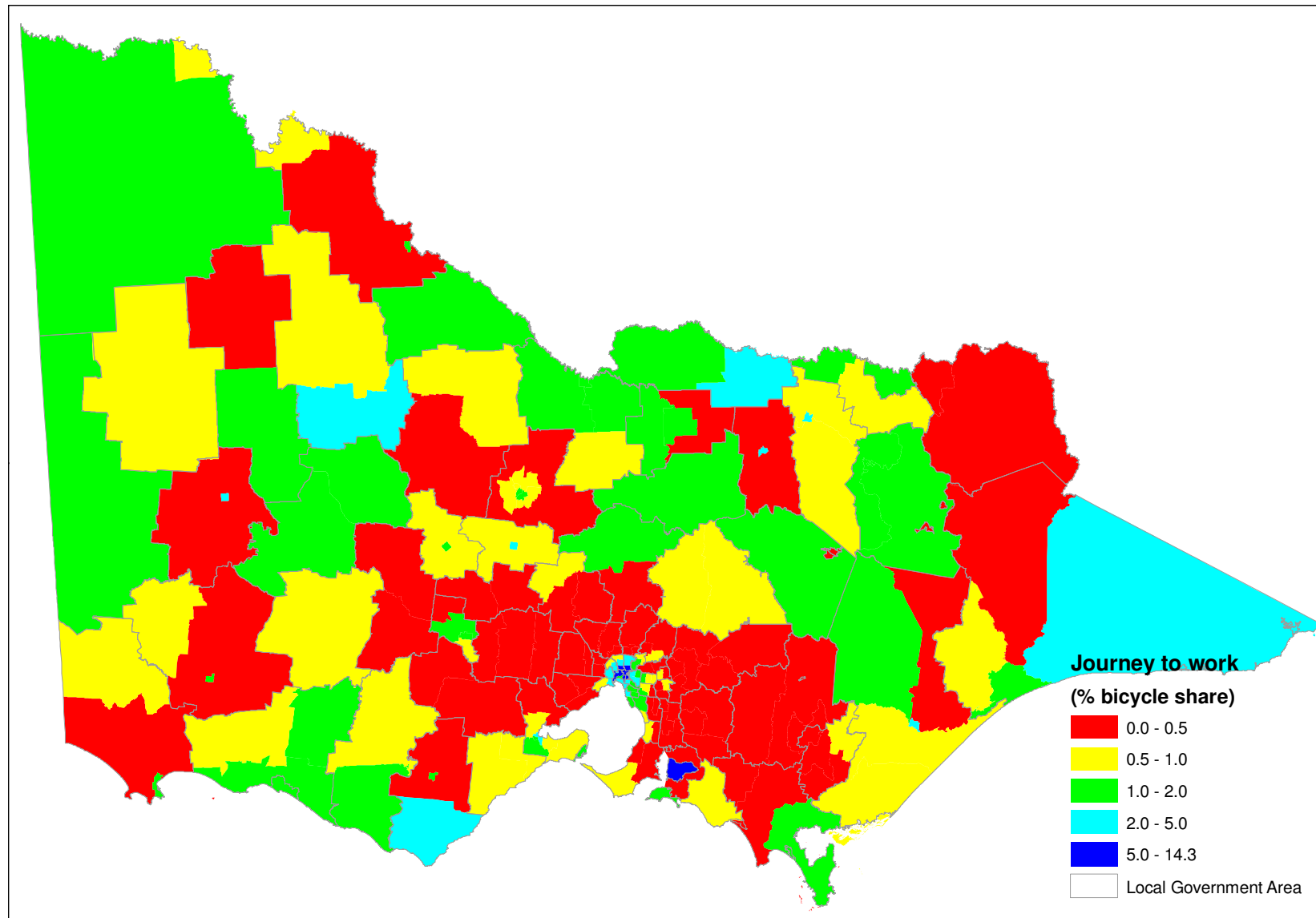


Figure 100: Bicycle share by origin of statistical local area, Victoria 2011

Figure 101 shows the bicycle share of journeys to work to the CBD by origin of SLA in 2011. The closest suburbs around the City of Melbourne generally had higher bicycle shares. Intra CBD bicycle share was, however, lower than many more distant suburbs. Interestingly, suburbs along the eastern shore of the Port Phillip Bay had significantly higher bicycle shares than their surrounding suburbs.

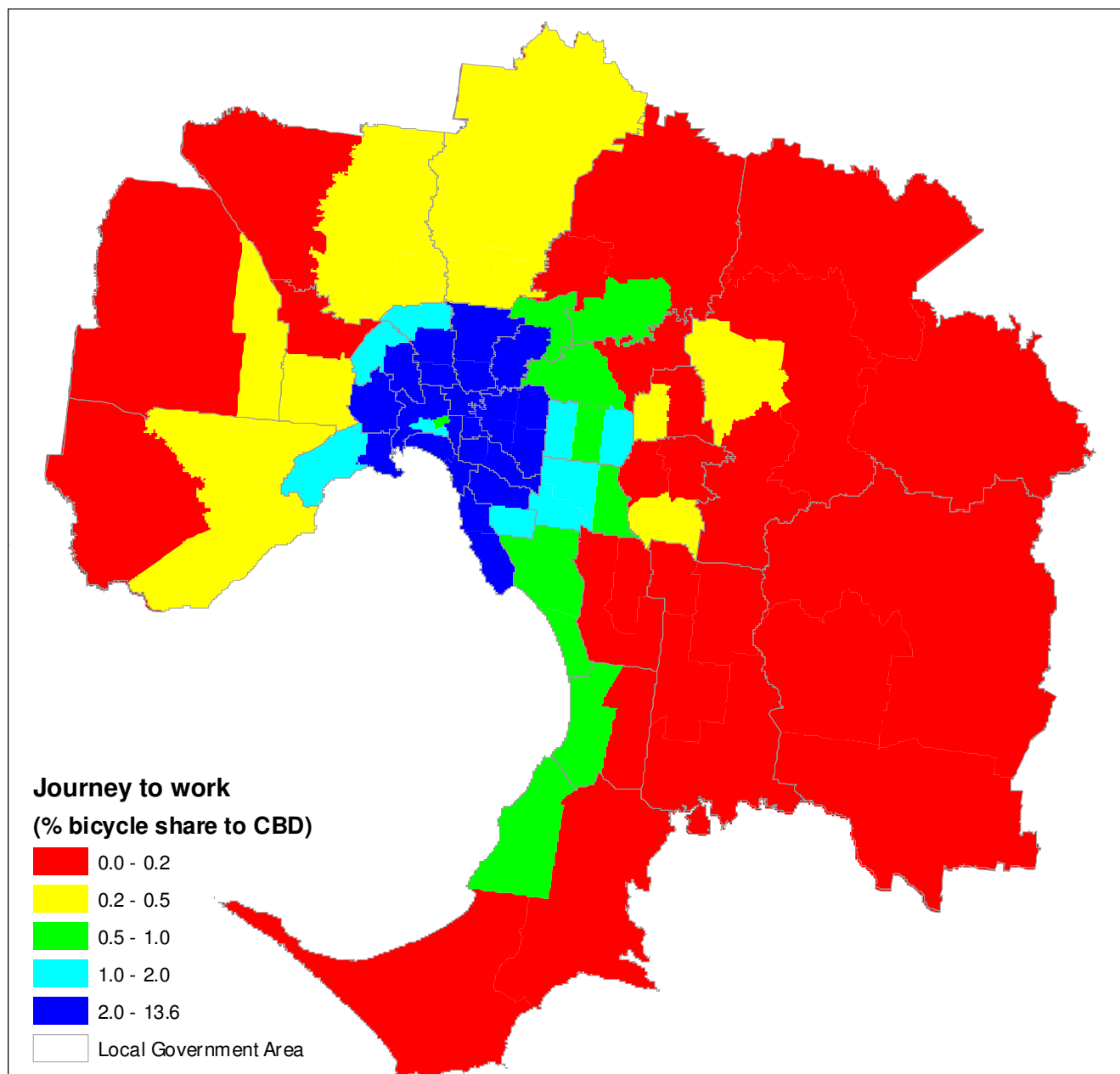


Figure 101: Bicycle share to the CBD by origin of statistical local area, Melbourne Statistical Division 2011

Figure 102 and Figure 103 show the bicycle share by origin of SLA in 2001 for the MSD and Victoria respectively. As in 2011, the inner suburbs and some southern suburbs in the MSD had significant bicycle shares. However, the area of high bicycle share (2% or more) was significantly smaller than that in 2011. As in 2011, most of country Victoria had higher bicycle share than most areas in the MSD.

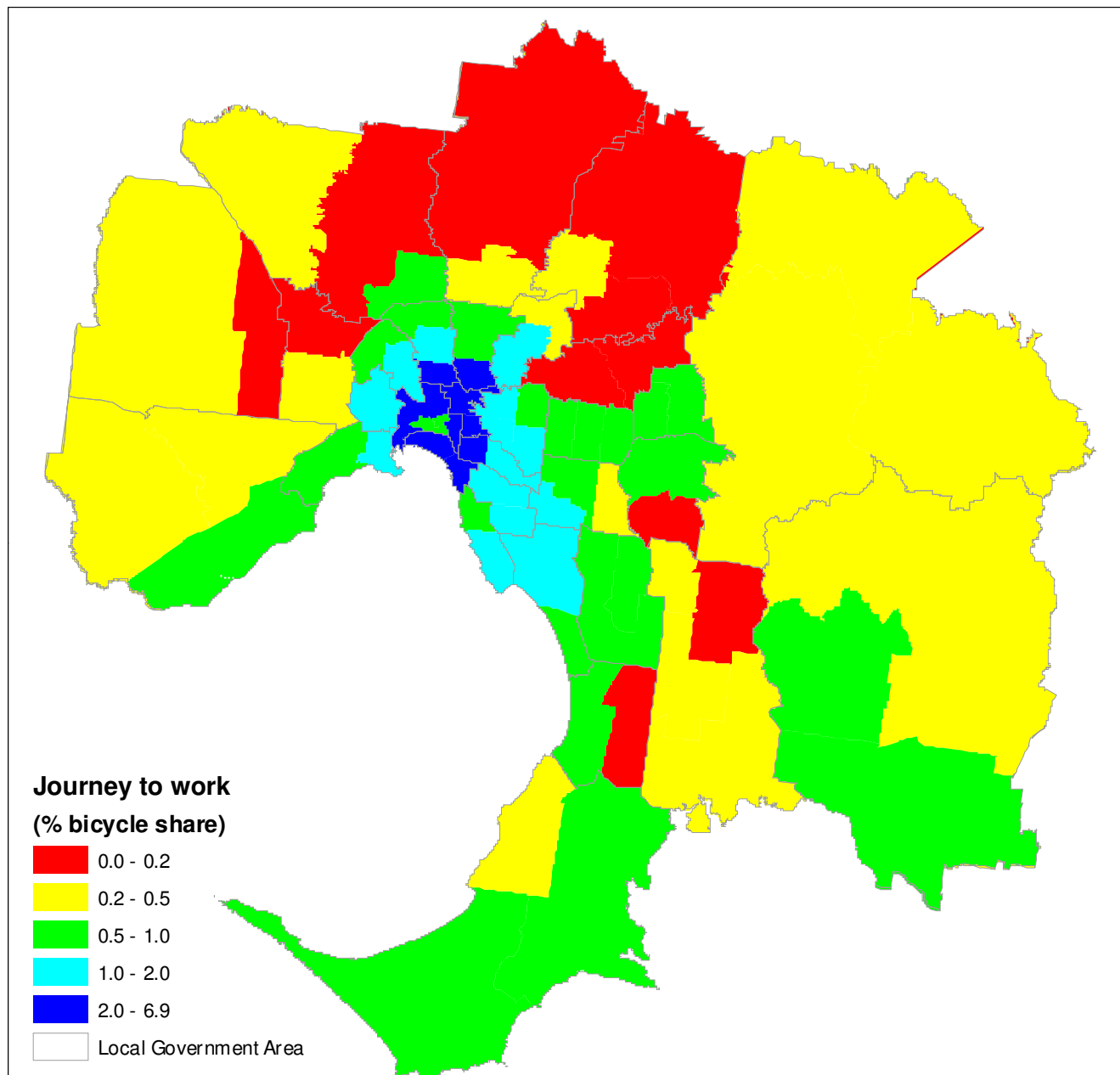


Figure 102: Bicycle share by origin of statistical local area, Melbourne Statistical Division 2001

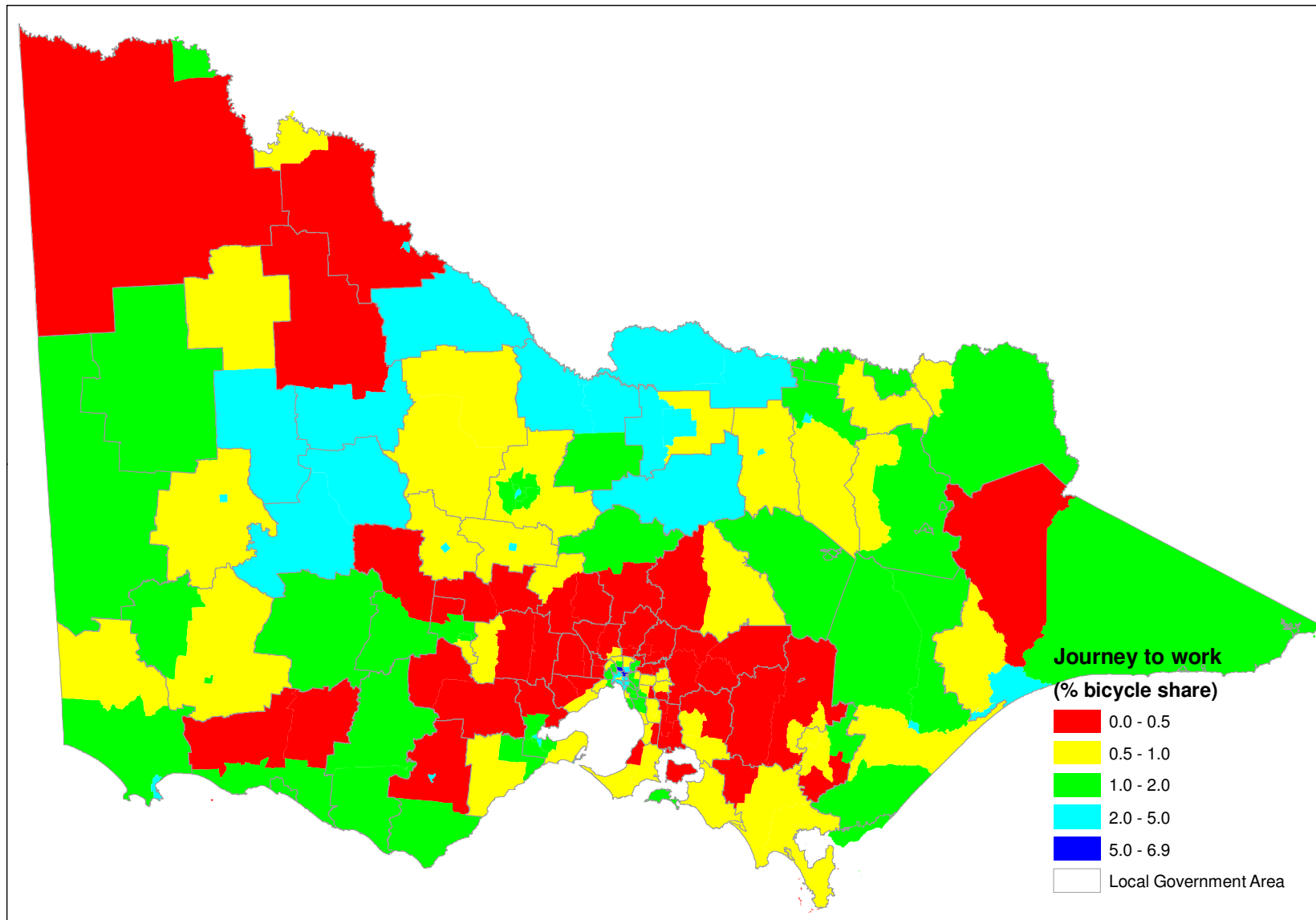


Figure 103: Bicycle share by origin of statistical local area, Victoria 2001

Figure 104 shows the bicycle share of journeys to work to the CBD by origin of SLA in 2001. As in 2011, suburbs around the City of Melbourne generally had high bicycle shares to the CBD. However, the area of high bicycle share was significantly smaller than that in 2011. In fact, most of the MSD had very low bicycle use with share of 0.2% or less.

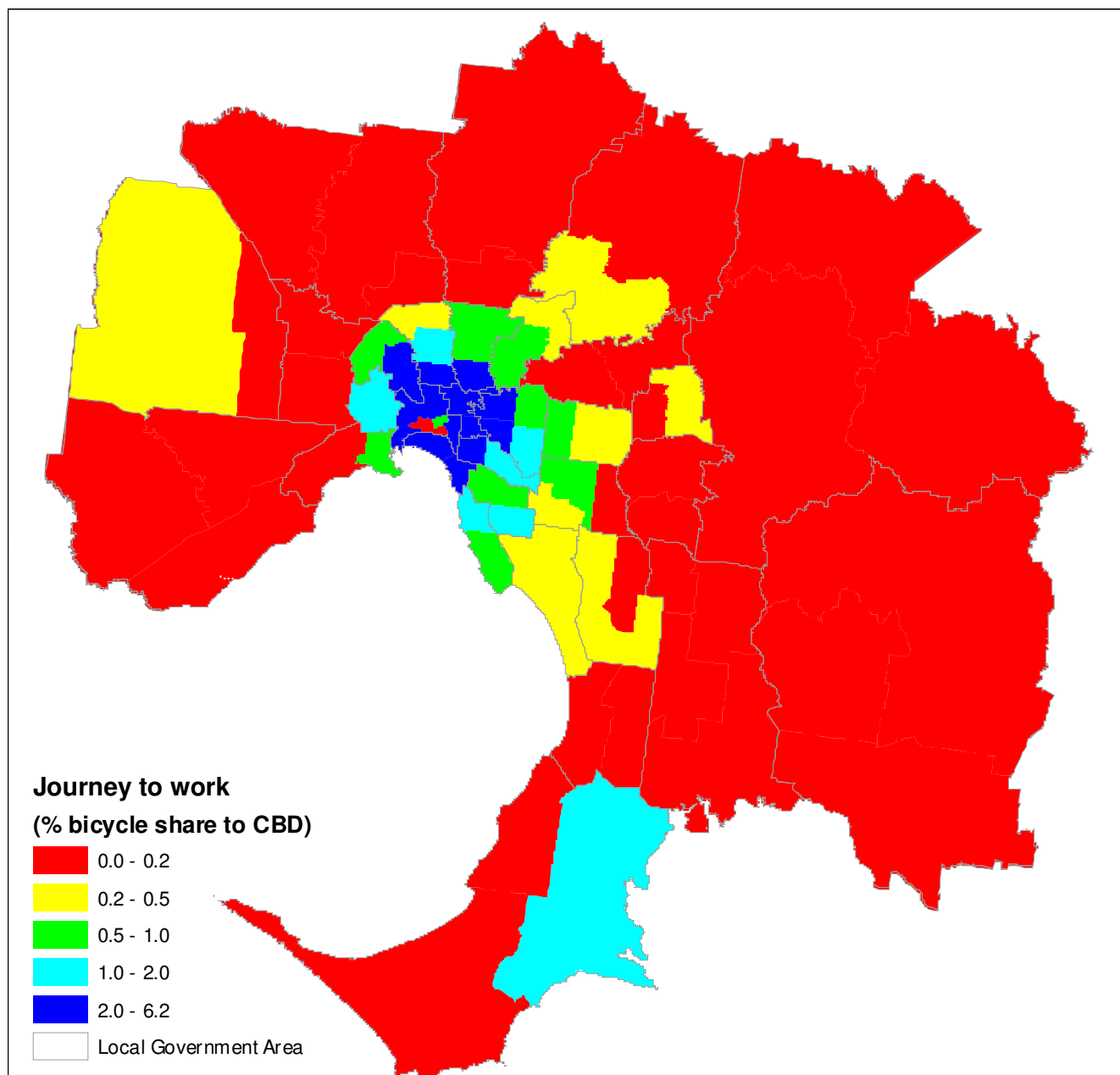


Figure 104: Bicycle share to the CBD by origin of statistical local area, Melbourne Statistical Division 2001

4.5 Walk

Figure 105 and Figure 106 show the walk share by origin of SLA in 2011 for the MSD and Victoria respectively. Walk share was high in the City of Melbourne and the suburbs immediately to the east and south of the city. Elsewhere in the MSD, Mornington Peninsula East and Cardinia South also had high walk shares. The high walk share in Mornington Peninsula was due largely to the high number of walk trips in HMAS Cerberus (see Figure 26). This reflects shorter distance to work.

Walking was a common mode of journey to work in country Victoria with many areas with a mode share of 10% or more. The walk share was particularly high in Alpine resorts with a mode share of 20% or higher. This again reflects shorter distance to work. On the other hand, areas around the MSD generally had low walk share of 2% or less.

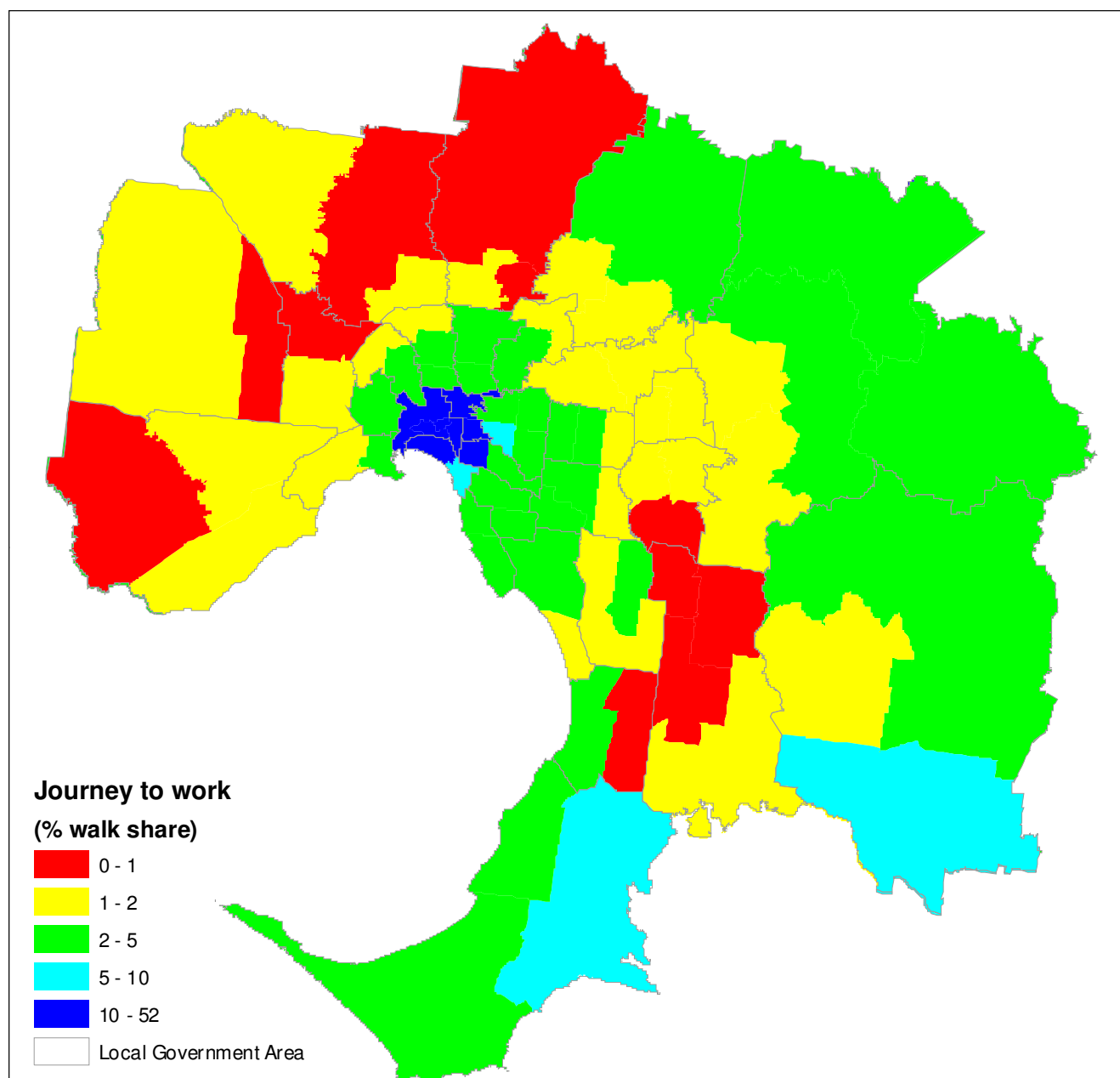


Figure 105: Walk share by origin of statistical local area, Melbourne Statistical Division 2011

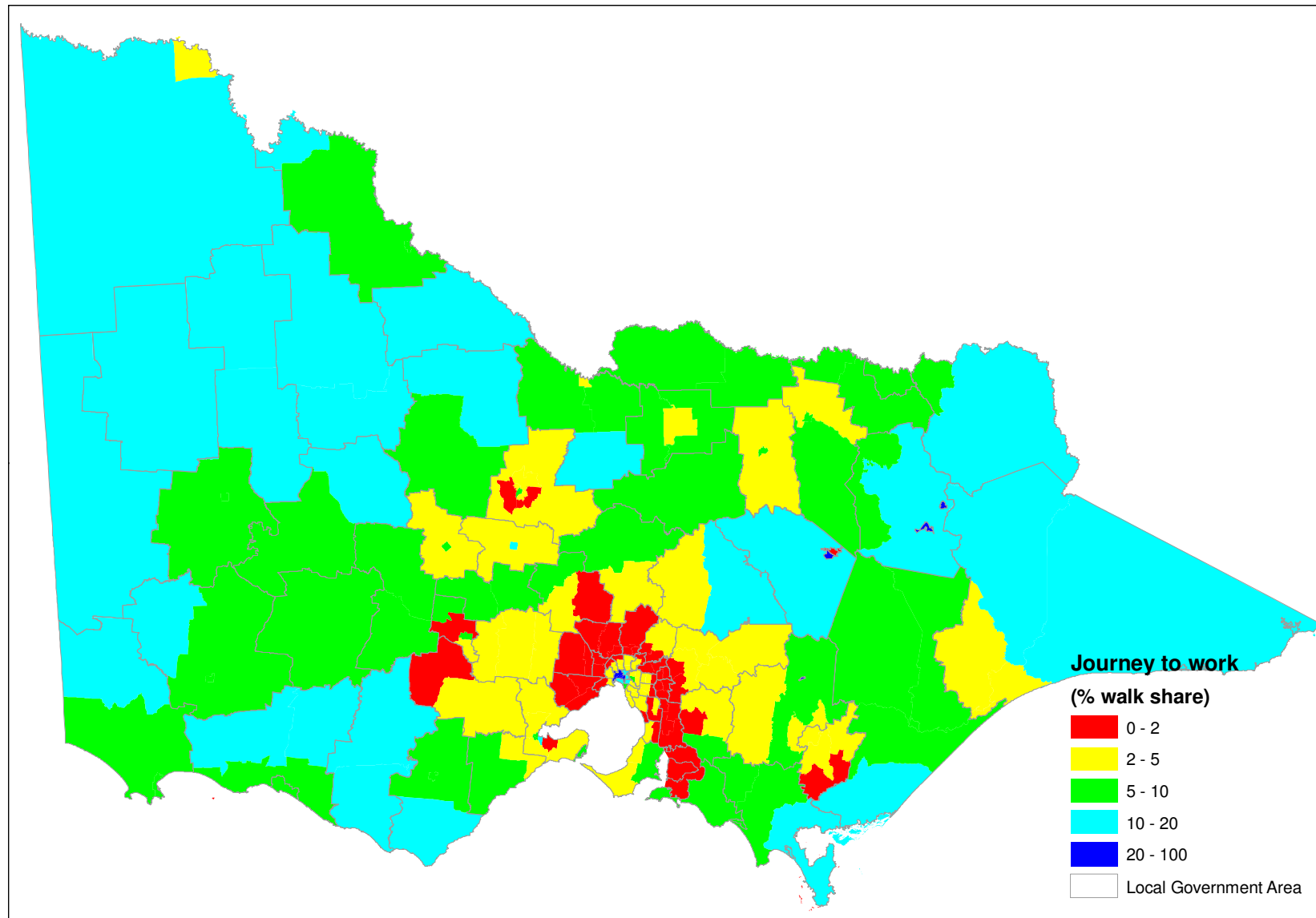


Figure 106: Walk share by origin of statistical local area, Victoria 2011

Figure 107 and Figure 108 show the walk share by origin of SLA in 2001 for the MSD and Victoria respectively. The areas of high walk share in the MSD were similar to those in 2011, except that the walk share in Wyndham South was significantly higher in 2001.

For the rest of Victoria, the spatial pattern of walk share was similar to that in 2011. Note that the Alpine resorts were parts of the SLAs of Delatite South and Alpine East in 2001 and so the walk share in these two SLAs appeared to be high.

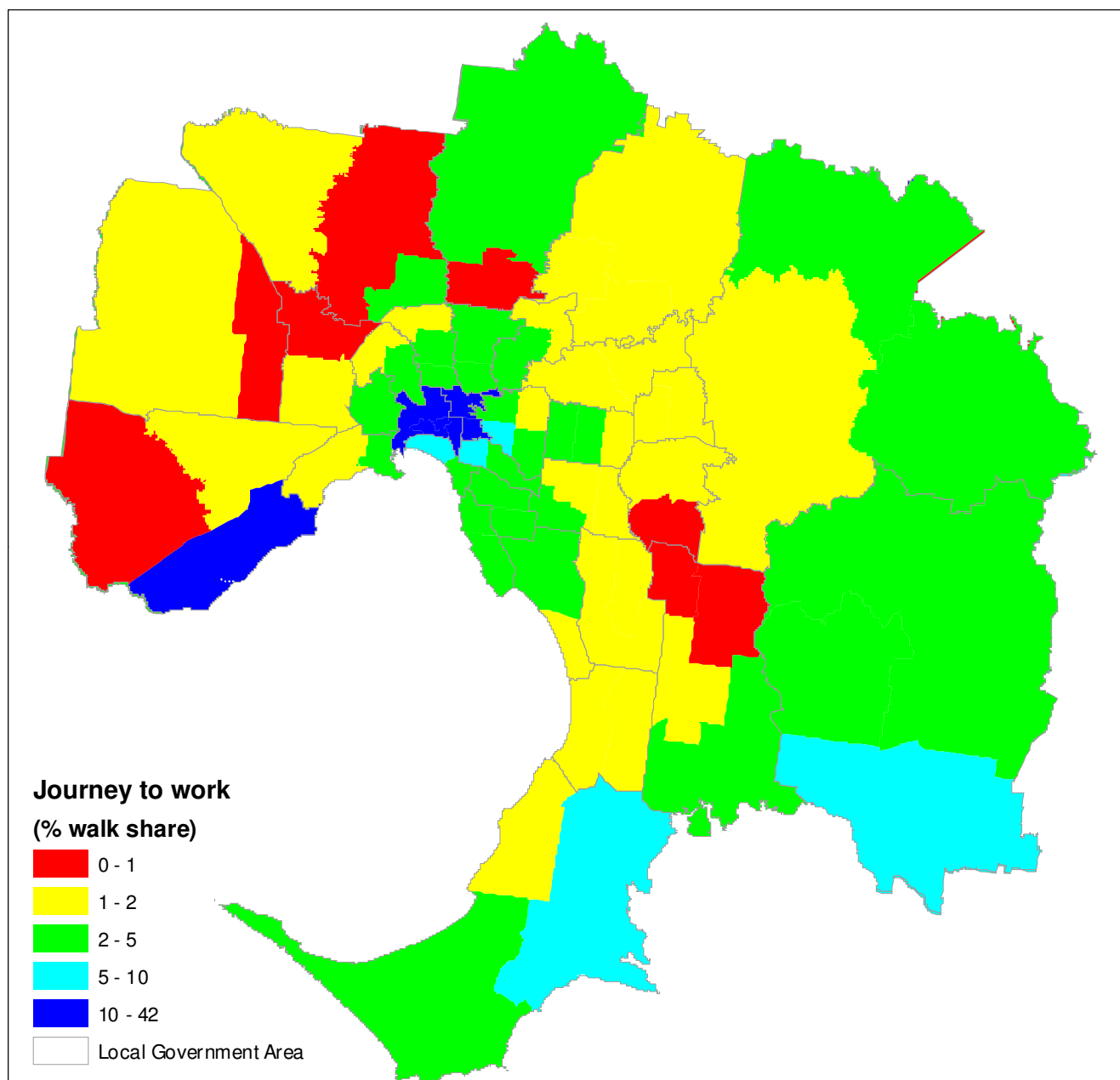


Figure 107: Walk share by origin of statistical local area, Melbourne Statistical Division 2001

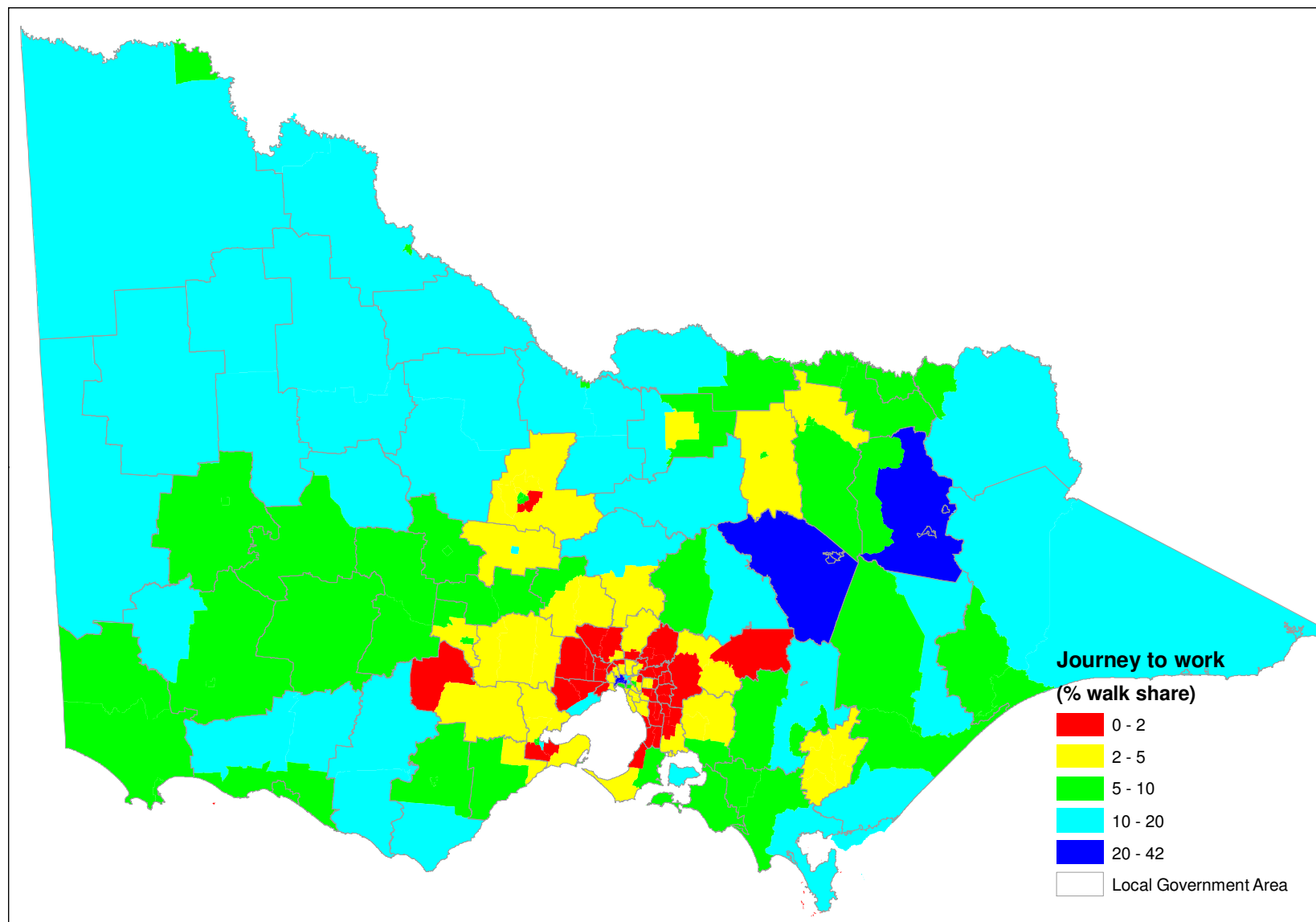


Figure 108: Walk share by origin of statistical local area, Victoria 2001

5 Method of Travel by Income

5.1 Mode Share

Figure 109 and Figure 110 show the distribution of work trips by income in 2011 for the MSD and rest of Victoria respectively. In the MSD, the number of work trips was quite evenly distributed among the middle and high income groups. For the rest of Victoria, most work trips were undertaken by people in the middle income groups.

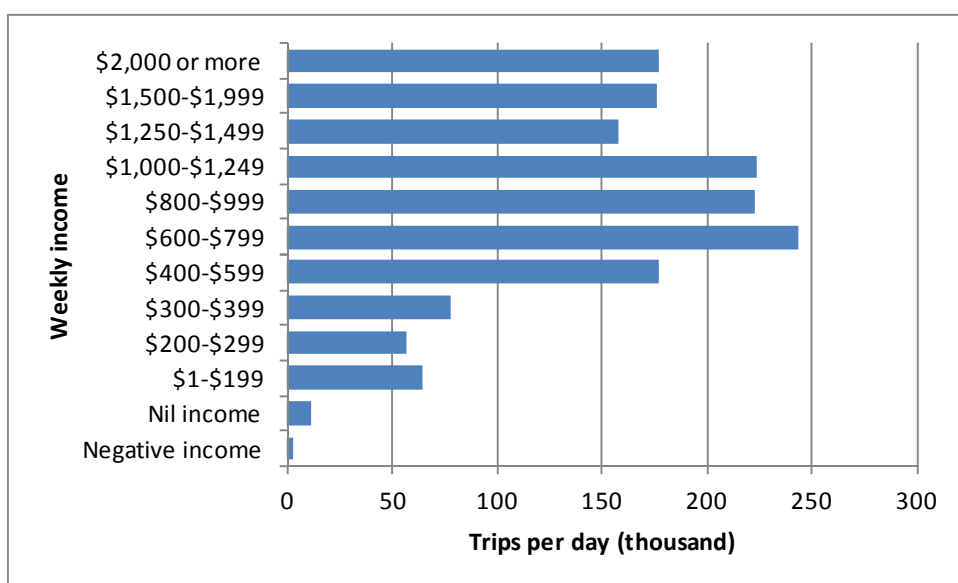


Figure 109: Total work trips by income, Melbourne Statistical Division 2011

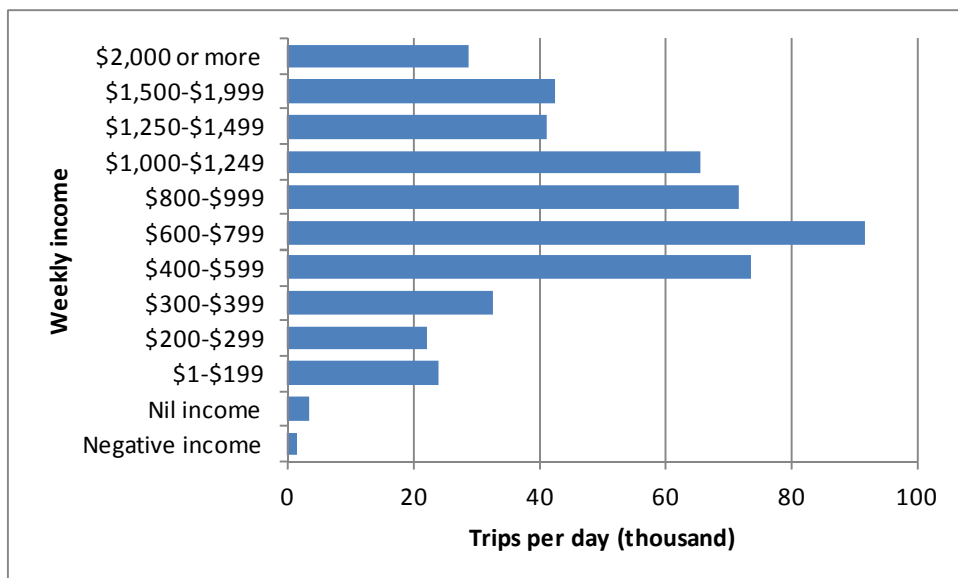


Figure 110: Total work trips by income, rest of Victoria 2011

Figure 111 and Figure 112 show the distribution of work trips by income in 2006 for the MSD and rest of Victoria respectively. Note the income brackets were different from those in 2011 to adjust for the change of wage over the years. Compared to 2011, there were more trips in the MSD from the middle and fewer trips from the high income groups in 2006. This really indicates the significant increase of income of people living in the MSD between 2006 and 2011.

For the rest of Victoria, the income distribution was similar to that in 2011, although there were more trips from the lower income groups in 2006.

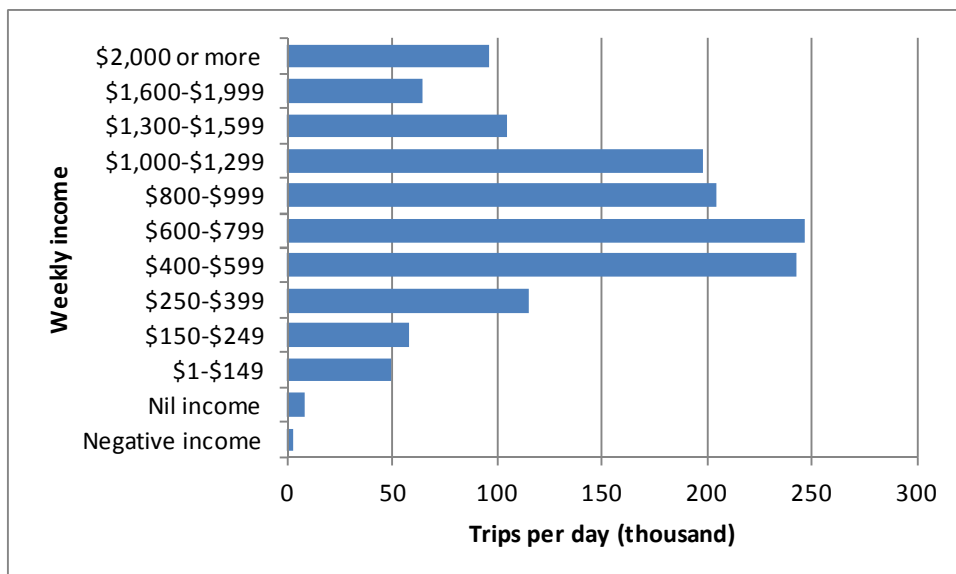


Figure 111: Total work trips by income, Melbourne Statistical Division 2006

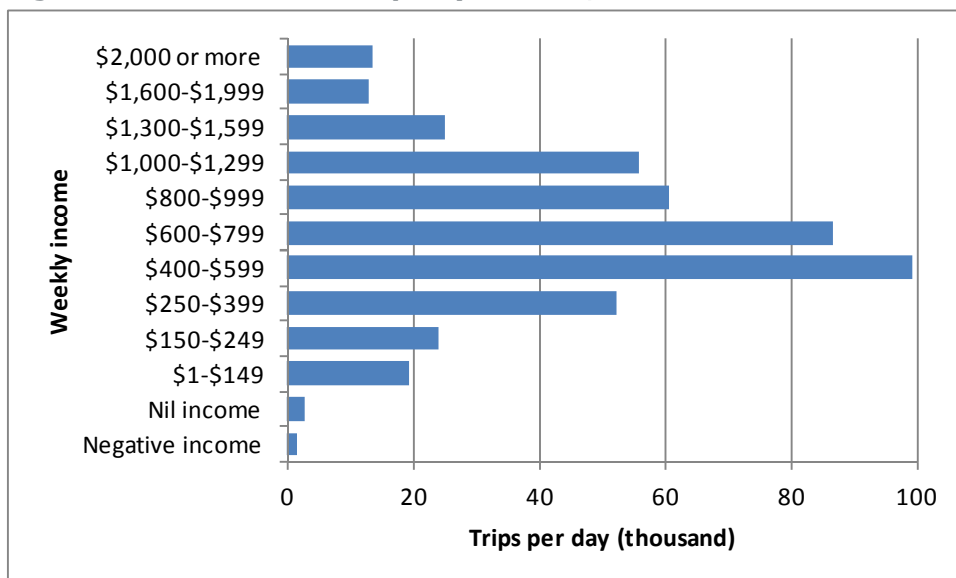


Figure 112: Total work trips by income, Victoria 2006

Figure 113 and Figure 114 show the mode share of journey to work by income in 2011 for the MSD and rest of Victoria respectively. In the MSD, private vehicle share was the highest among the middle income groups, while public transport share was the highest for the lowest (\$1-\$199 per week) and highest (\$2000 per week) income groups. Bicycle share was low in the MSD but generally higher for the higher income groups. Walk share was generally higher for the lower income groups.

Private vehicle was the dominant mode of travel to work in country Victoria for all income groups. However, the private vehicle share was the lowest for the lower income groups. Public transport use was low in country Victoria but, similar to that in the MSD, the share was the highest for both the lowest and highest income groups. Bicycle share was very low for most income groups and was the highest for the lowest income group. Walking was a significant mode of travel to work for people with low, nil or negative income.

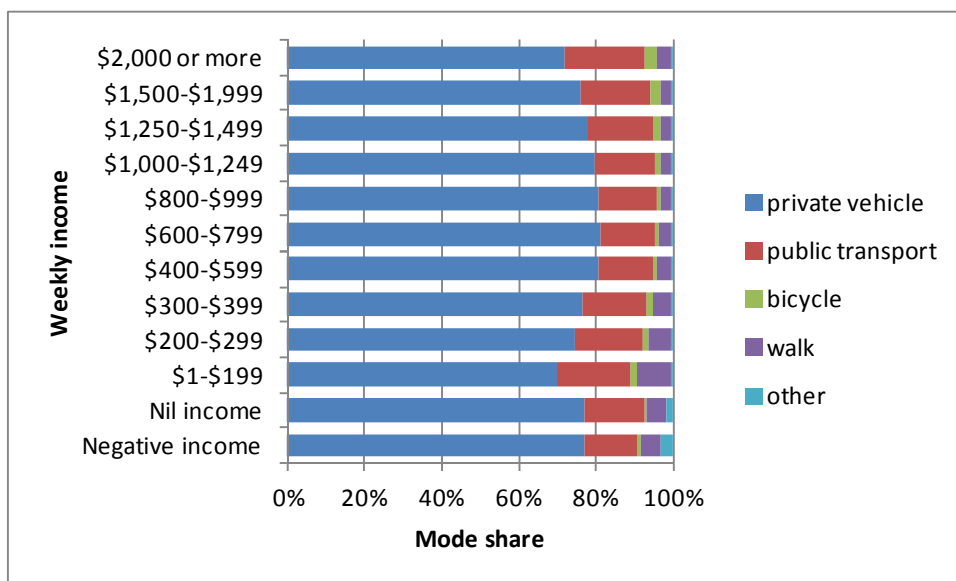


Figure 113: Mode share of journey to work by income, Melbourne Statistical Division 2011

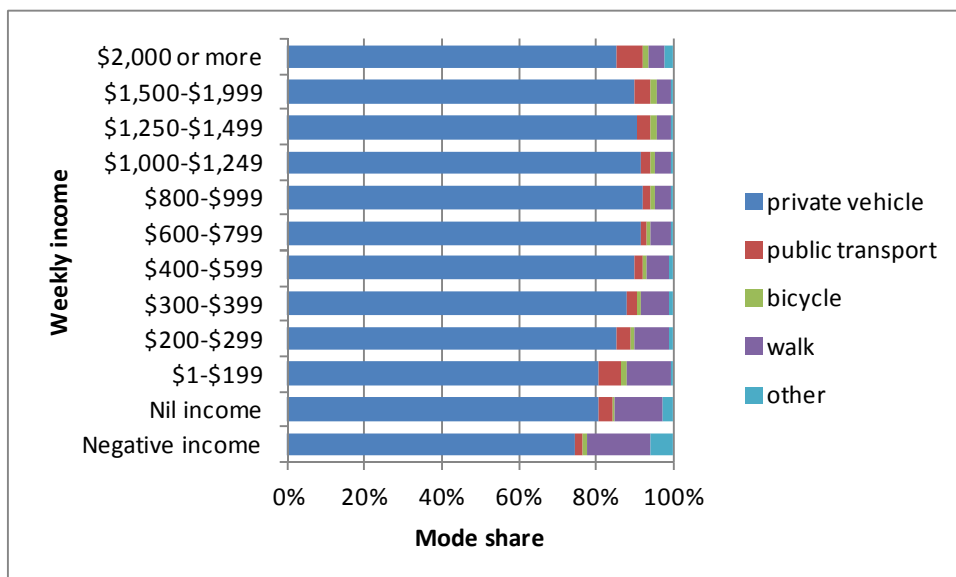


Figure 114: Mode share of journey to work by income, Victoria 2011

Figure 115 and Figure 116 show the mode share of journey to work by income in 2006 for the MSD and rest of Victoria respectively. The distributions were similar to those in 2011, indicating there was little change in mode choice for the different income groups between 2006 and 2011.

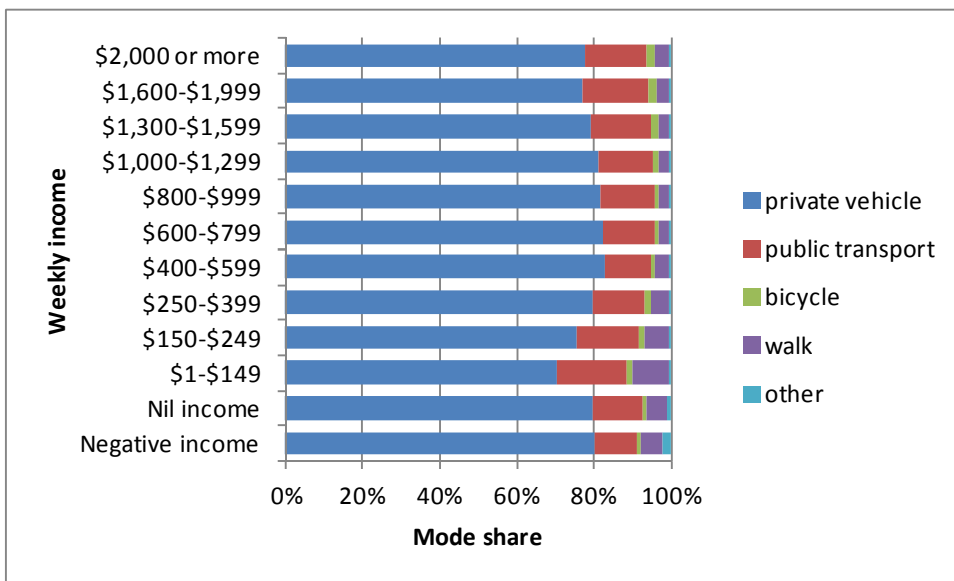


Figure 115: Mode share of journey to work by income, Melbourne Statistical Division 2006

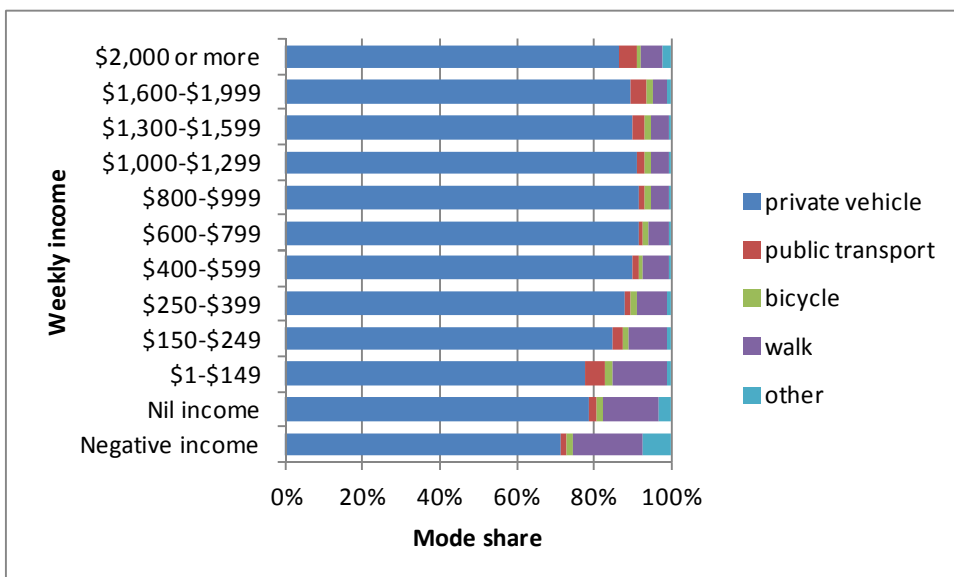


Figure 116: Mode share of journey to work by income, Victoria 2006

5.2 Trip Origin

To show the spatial distribution of trip origins and destinations by income, the income groups are aggregated into the following groups:

- \$1-\$799, \$800-\$1249 and \$1250 or more for the year 2011
- \$1-\$599, \$600-\$1000 and \$1000 or more for the year 2006

These groups roughly consist of the same number of trips and represents people with low, middle and high incomes.

Figure 117-Figure 119 show the origins of journey to work in the MSD in 2011 for people with weekly income of \$1-\$799, \$800-\$1249 and \$1250 or more respectively. Generally, people with low income dispersed widely within the urban growth boundary. People with

middle income came mostly from outer suburbs and some inner suburbs. In contrast, people with high income came mostly from inner and eastern suburbs.

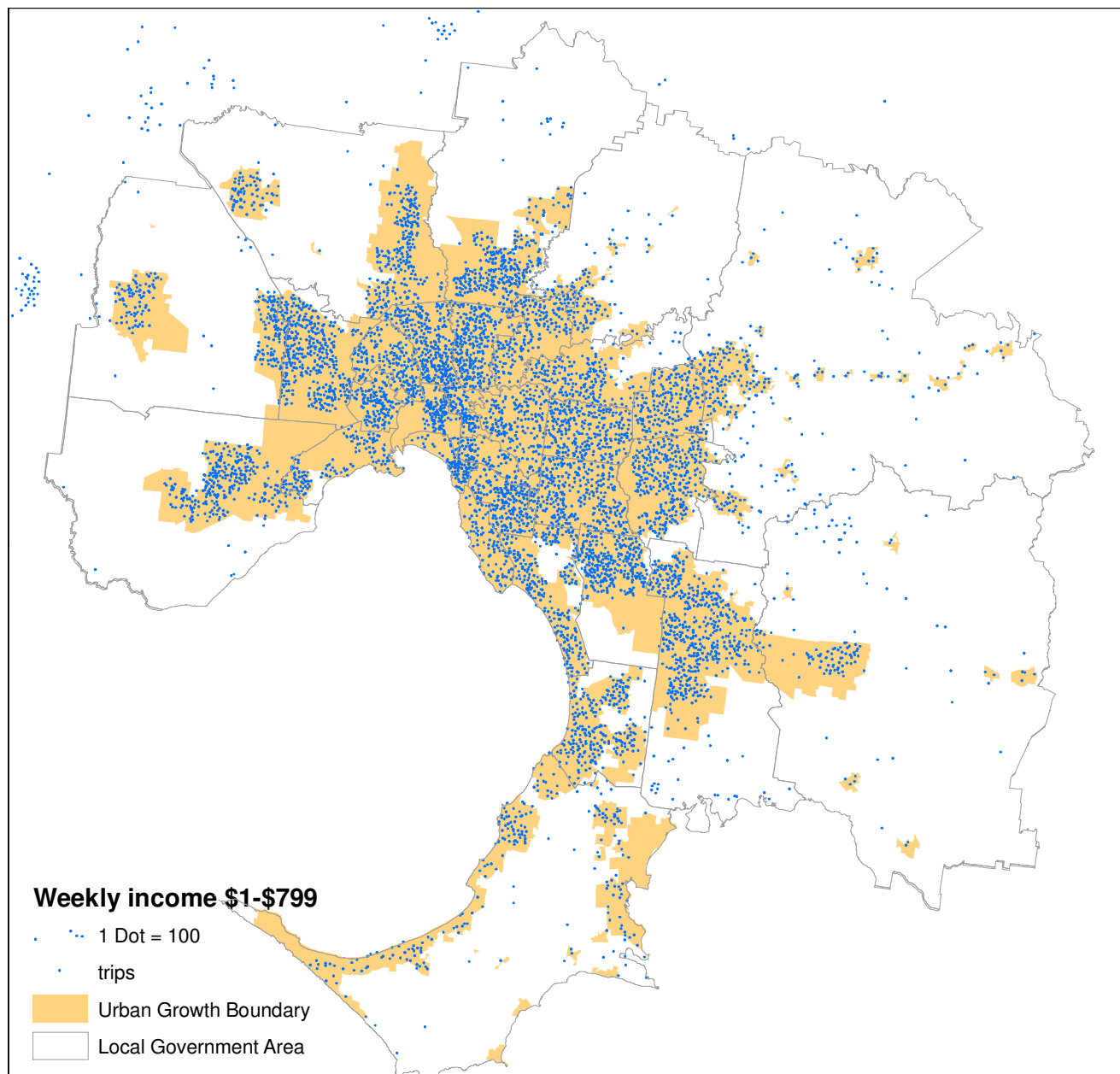


Figure 117: Origins of journey to work for people with weekly income \$1-\$799, Melbourne Statistical Division 2011

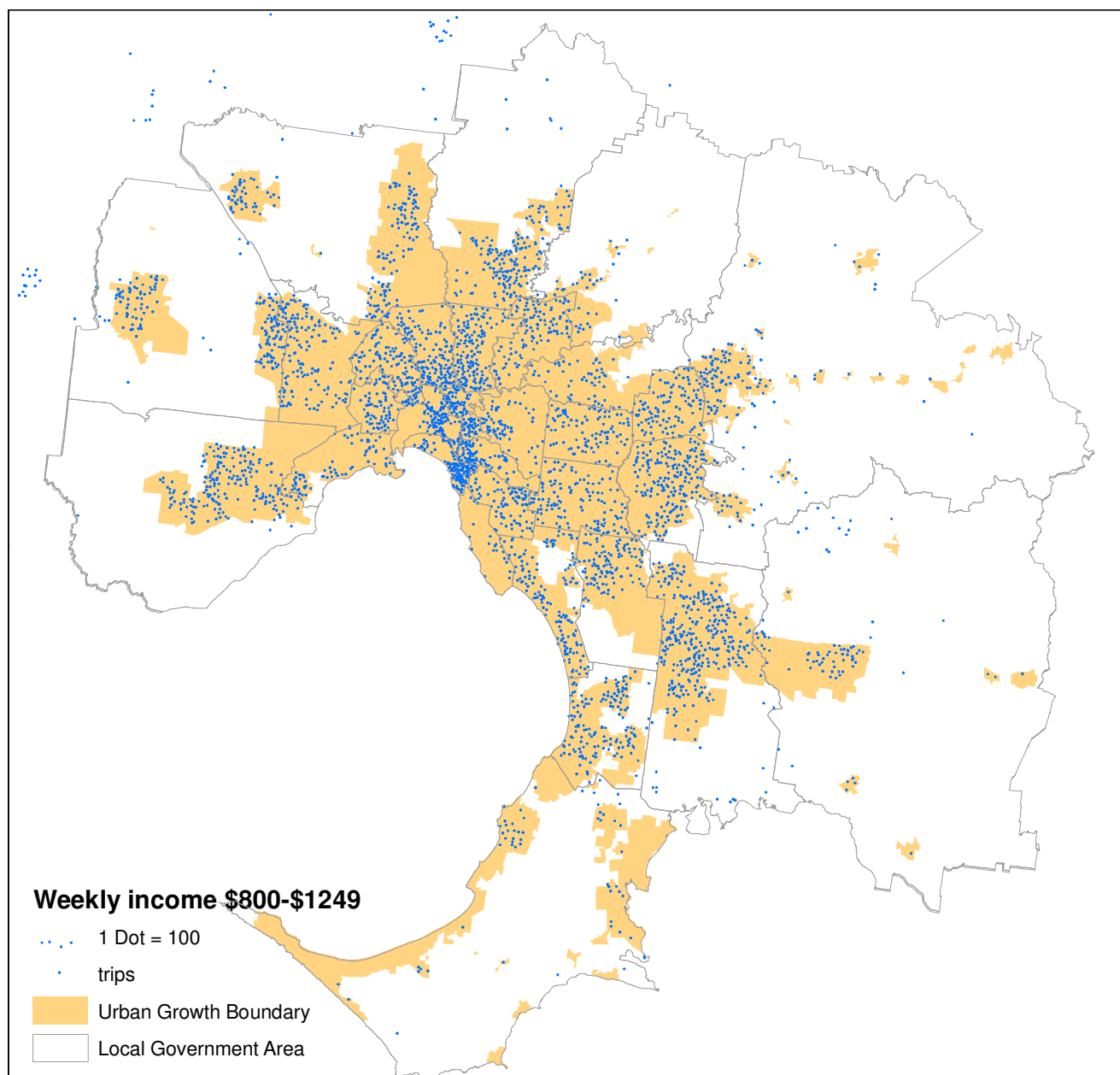


Figure 118: Origins of journey to work for people with weekly income \$800-\$1249, Melbourne Statistical Division 2011

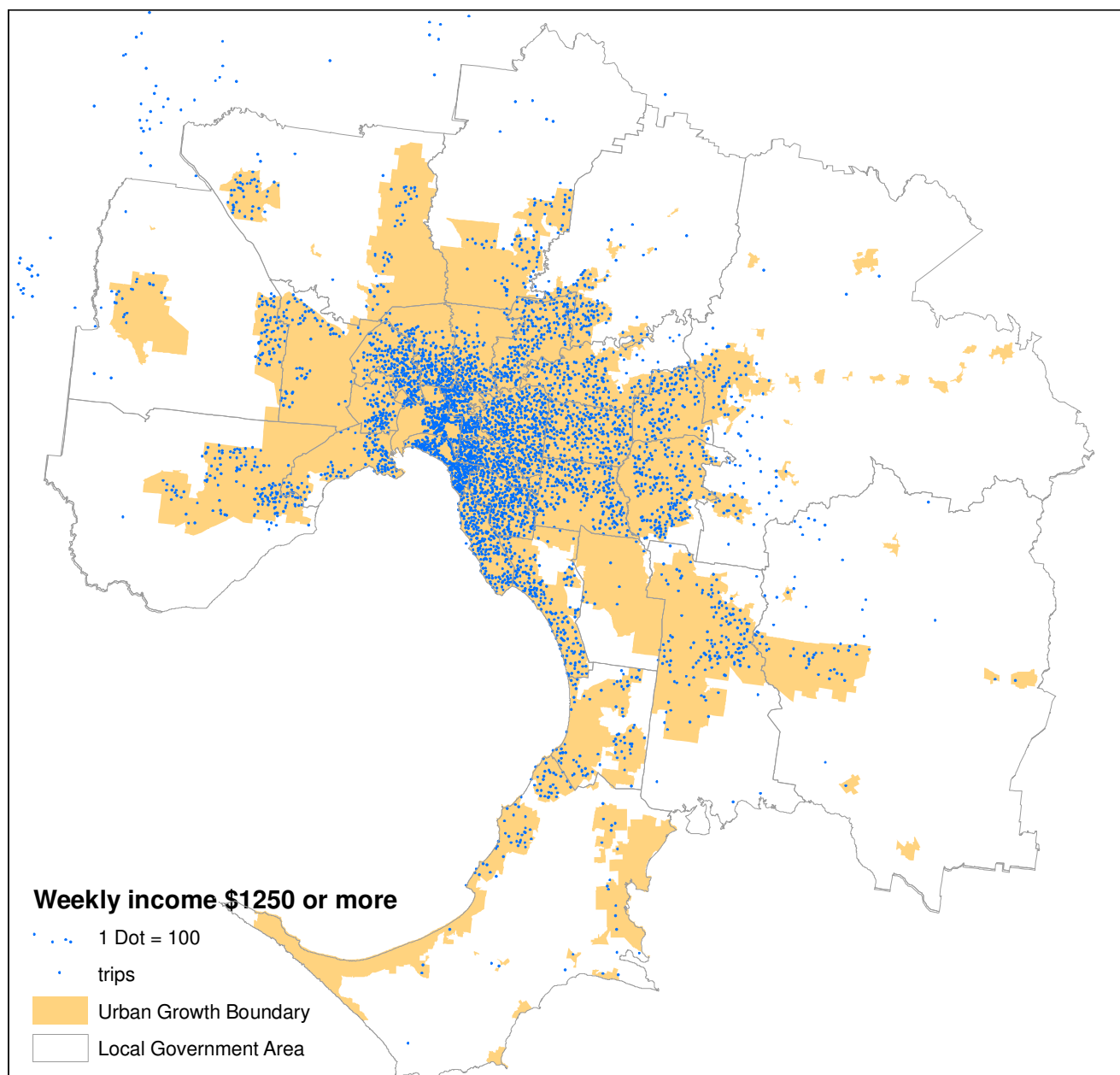


Figure 119: Origins of journey to work for people with weekly income \$1250 or more, Melbourne Statistical Division 2011

Figure 120-Figure 121 show the origins of journey to work in Victoria in 2011 for people with weekly income of \$1-\$799, \$800-\$1249 and \$1250 or more respectively. In contrast to the MSD, there was little difference in the spatial distribution of the different income groups in the rest of Victoria.

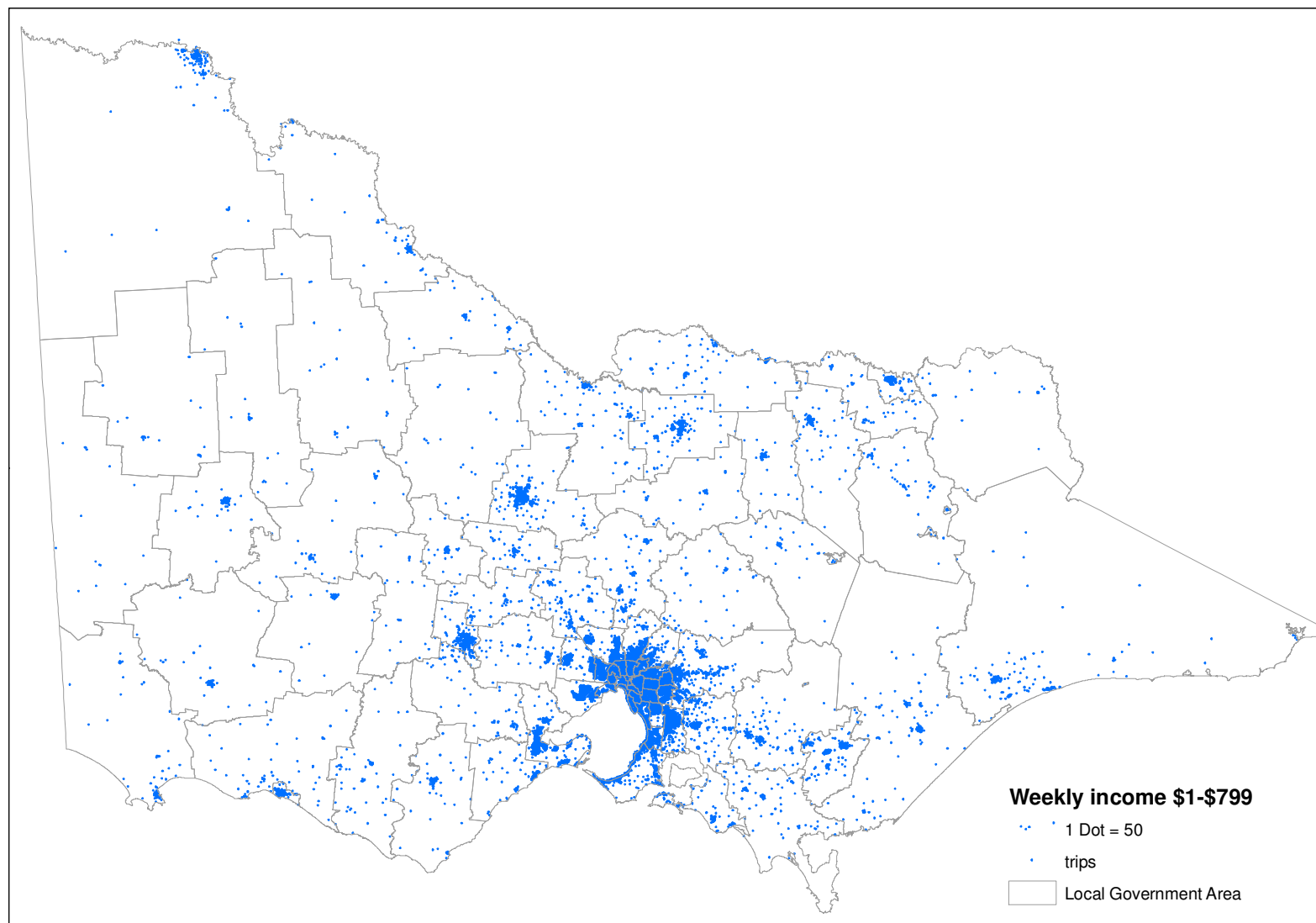


Figure 120: Origins of journey to work for people with weekly income \$1-\$799, Victoria 2011

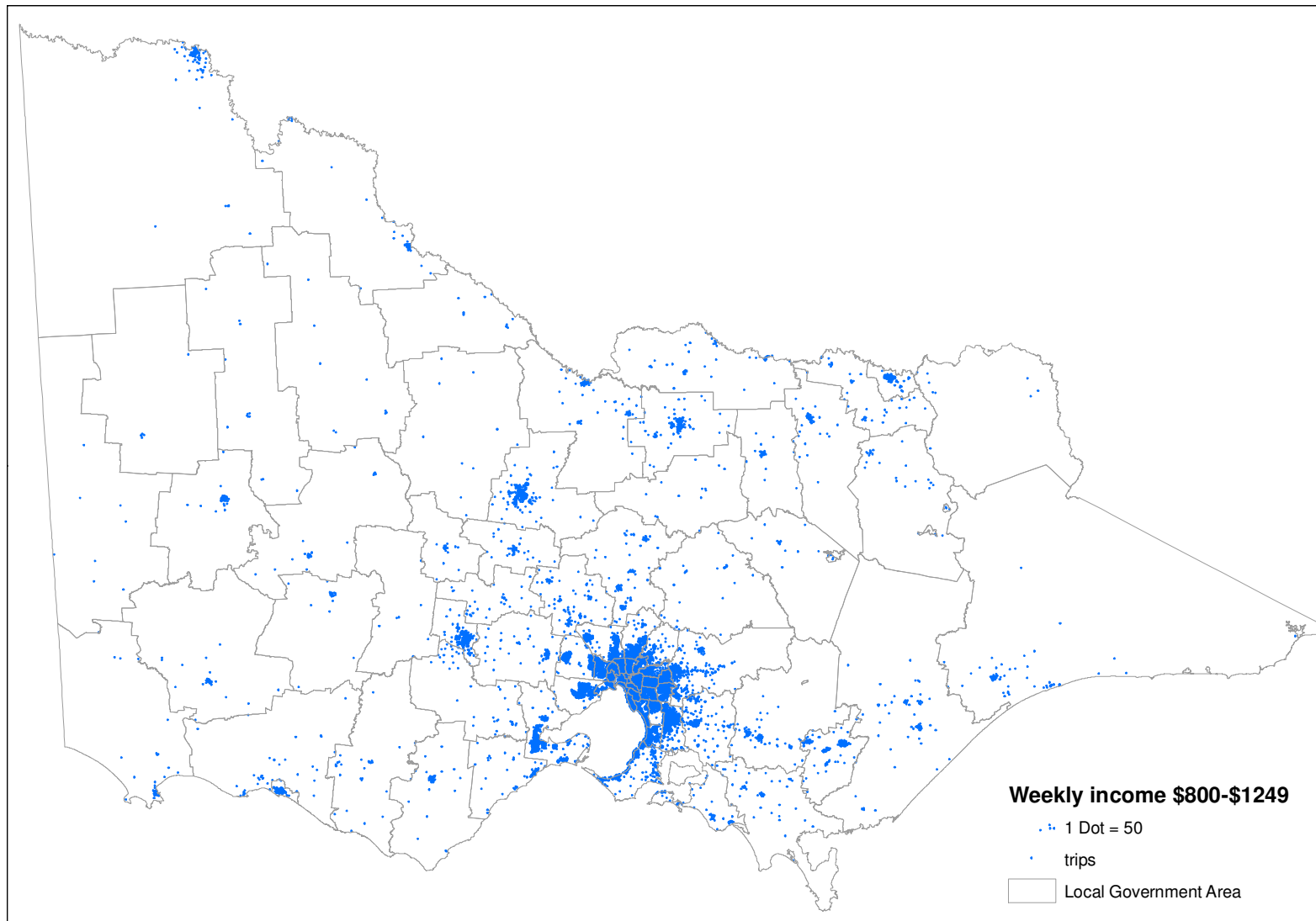


Figure 121: Origins of journey to work for people with weekly income \$800-\$1249, Victoria 2011

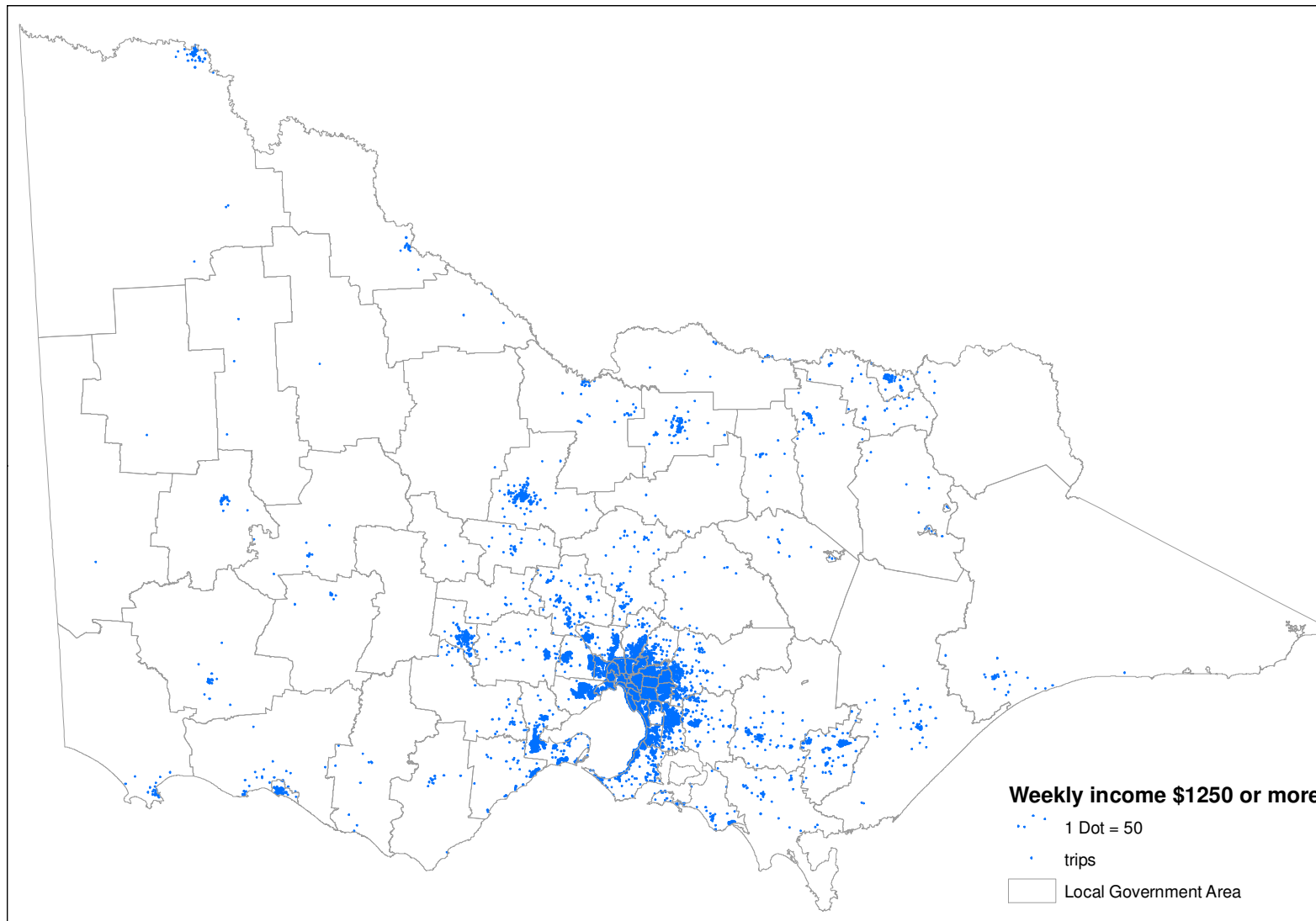


Figure 122: Origins of journey to work for people with weekly income \$1250 or more, Victoria 2011

Figure 123-Figure 125 show the origins of journey to work in the MSD in 2006 for people with weekly income of \$1-\$599, \$600-\$999 and \$1000 or more respectively. Similar to 2011, people with low income dispersed widely with the urban growth boundary. However, different from 2011, there were few trips from the inner suburbs for people with low income. People with middle income were widely dispersed in 2006. This was different from 2011 when there were relatively few people came from the middle suburbs. Similar to 2011, people with high income came mostly from the inner and eastern suburbs in 2006.

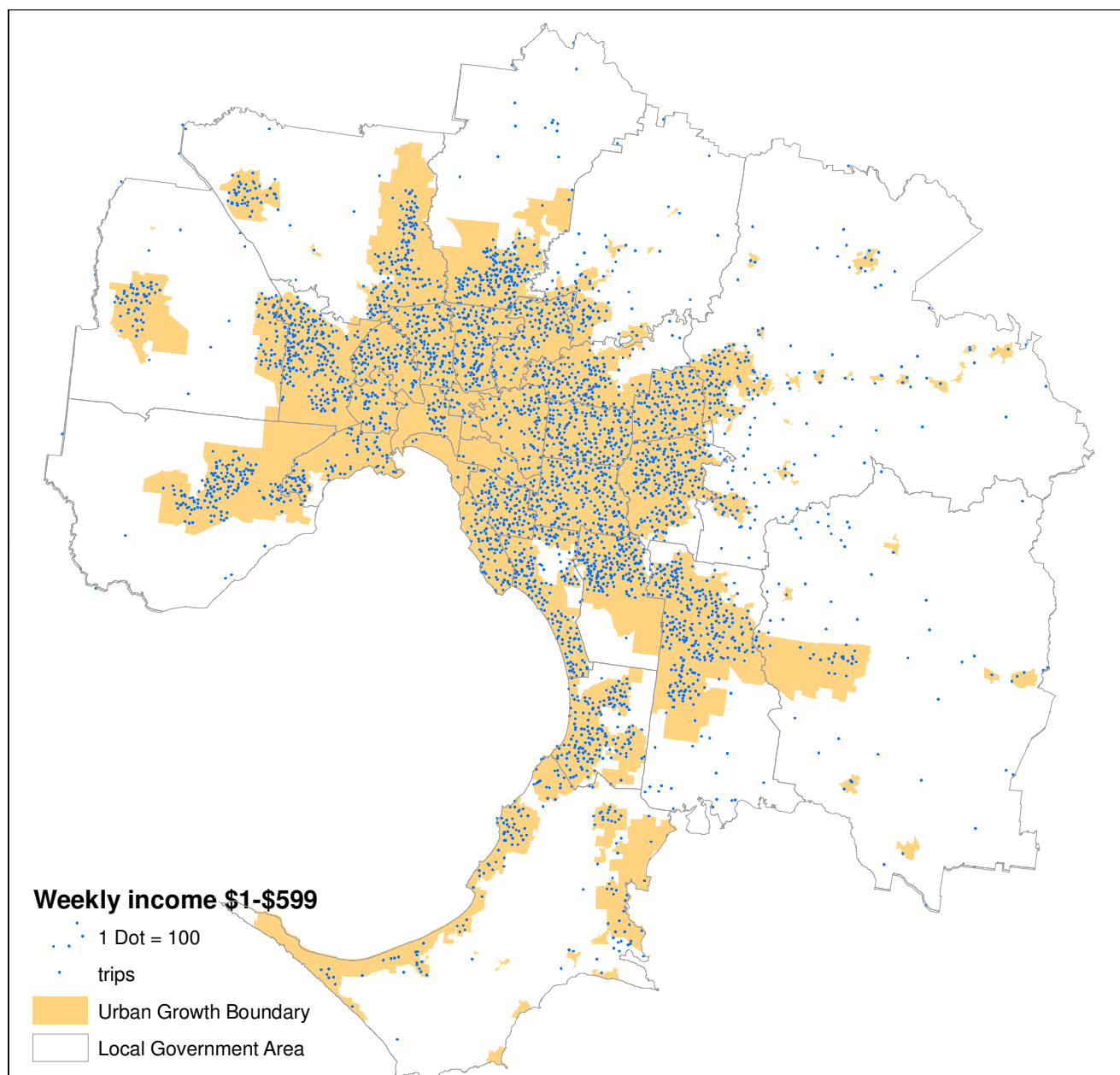


Figure 123: Origins of journey to work for people with weekly income \$1-\$599, Melbourne Statistical Division 2006

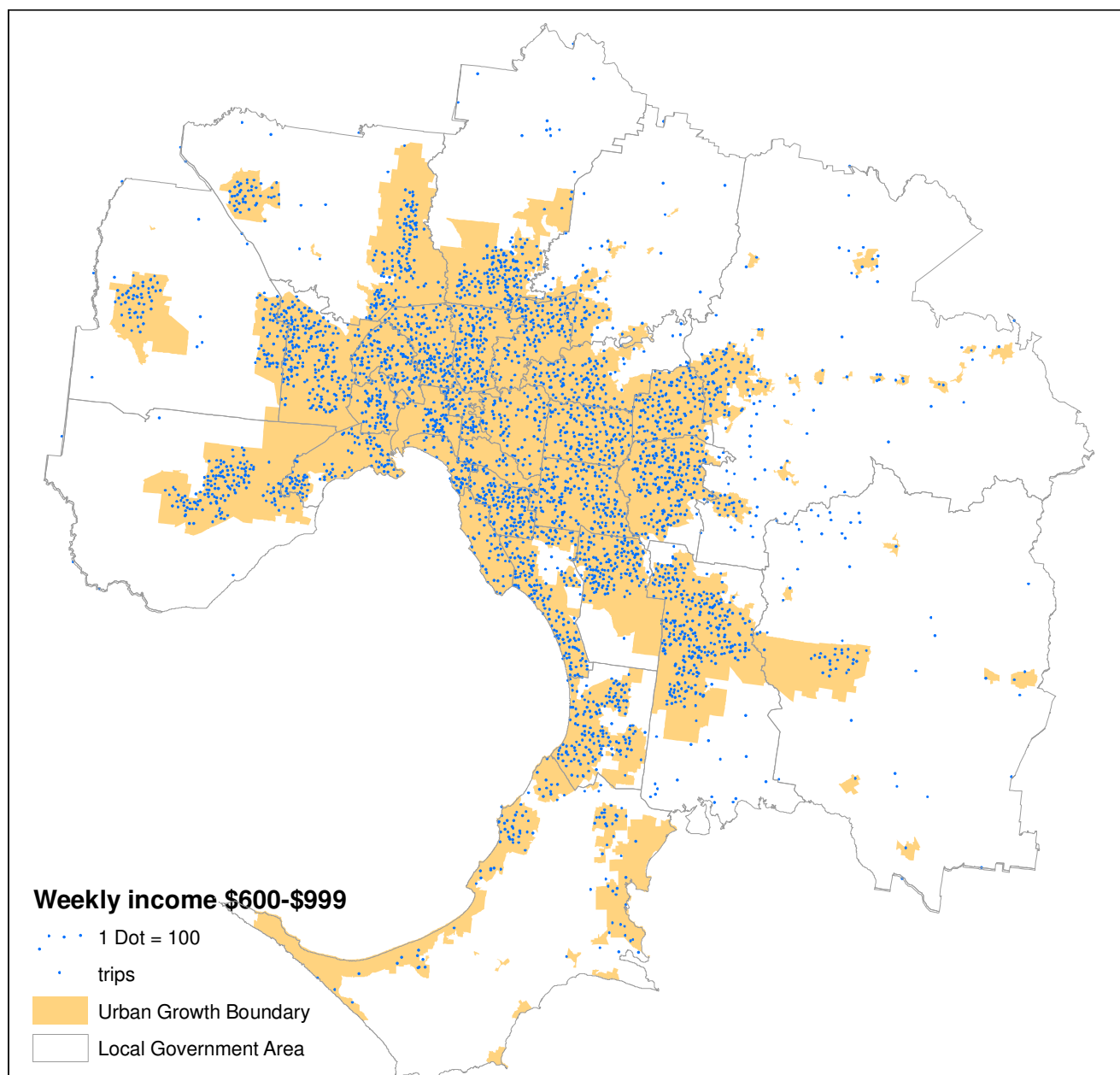


Figure 124: Origins of journey to work for people with weekly income \$600-\$999, Melbourne Statistical Division 2006

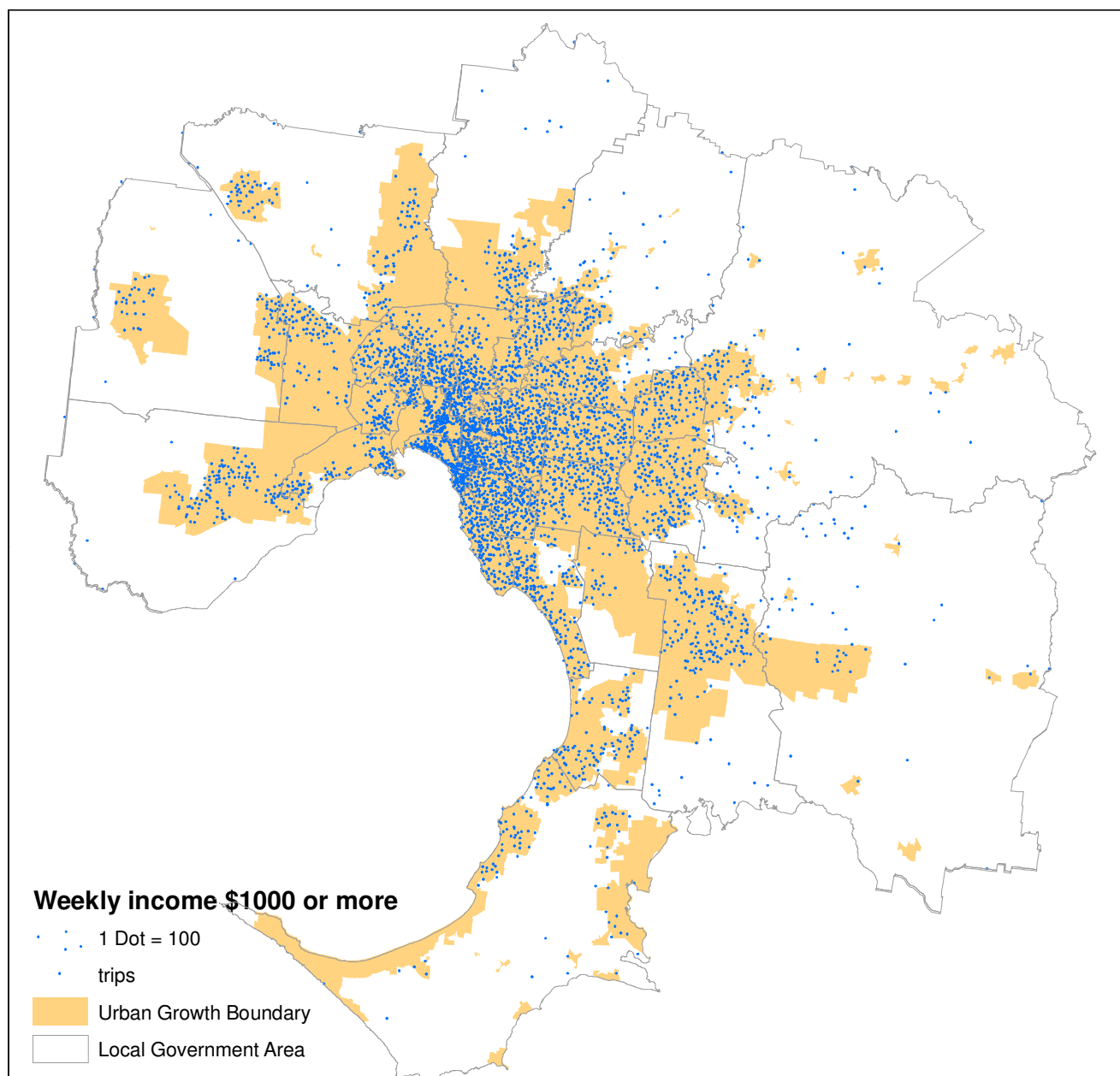


Figure 125: Origins of journey to work for people with weekly income \$1000 or more, Melbourne Statistical Division 2006

Figure 126-Figure 128 show the origins of journey to work in Victoria in 2006 for people with weekly income of \$1-\$599, \$600-\$999 and \$1000 or more respectively. As in 2011, there was little difference in the spatial distribution of the different income groups in the rest of Victoria.

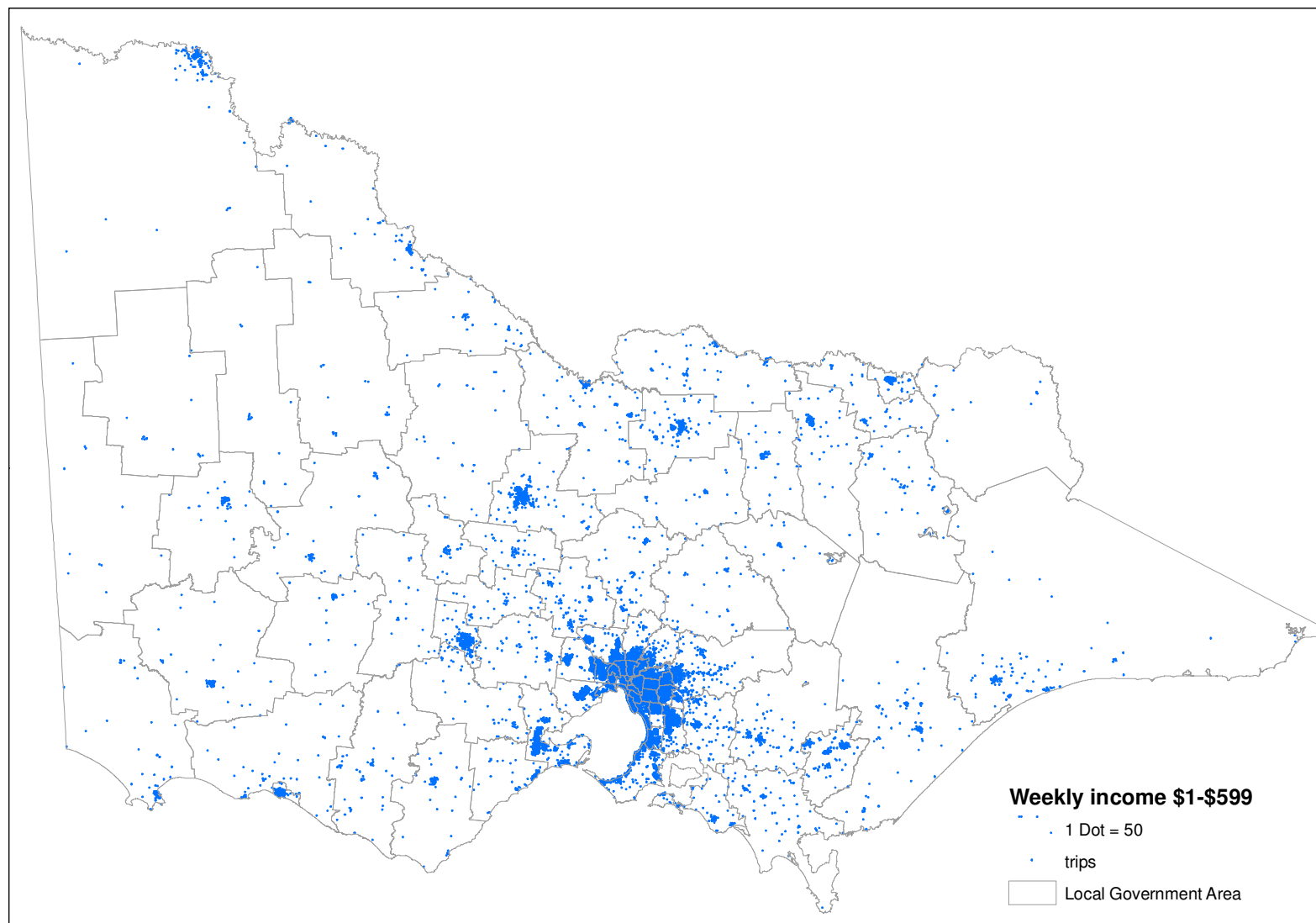


Figure 126: Origins of journey to work for people with weekly income \$1-\$599, Victoria 2006

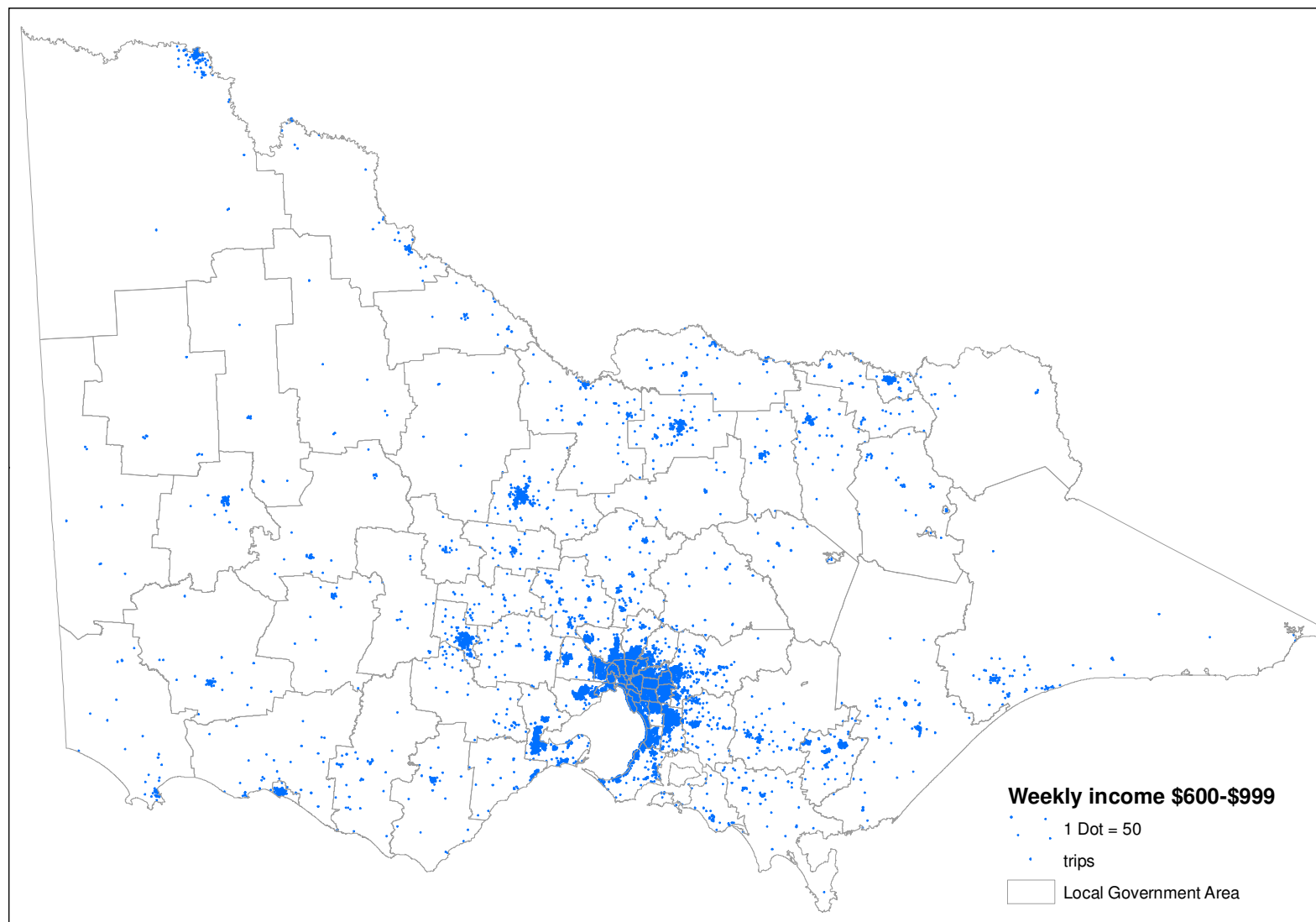


Figure 127: Origins of journey to work for people with weekly income \$600-\$999, Victoria 2006

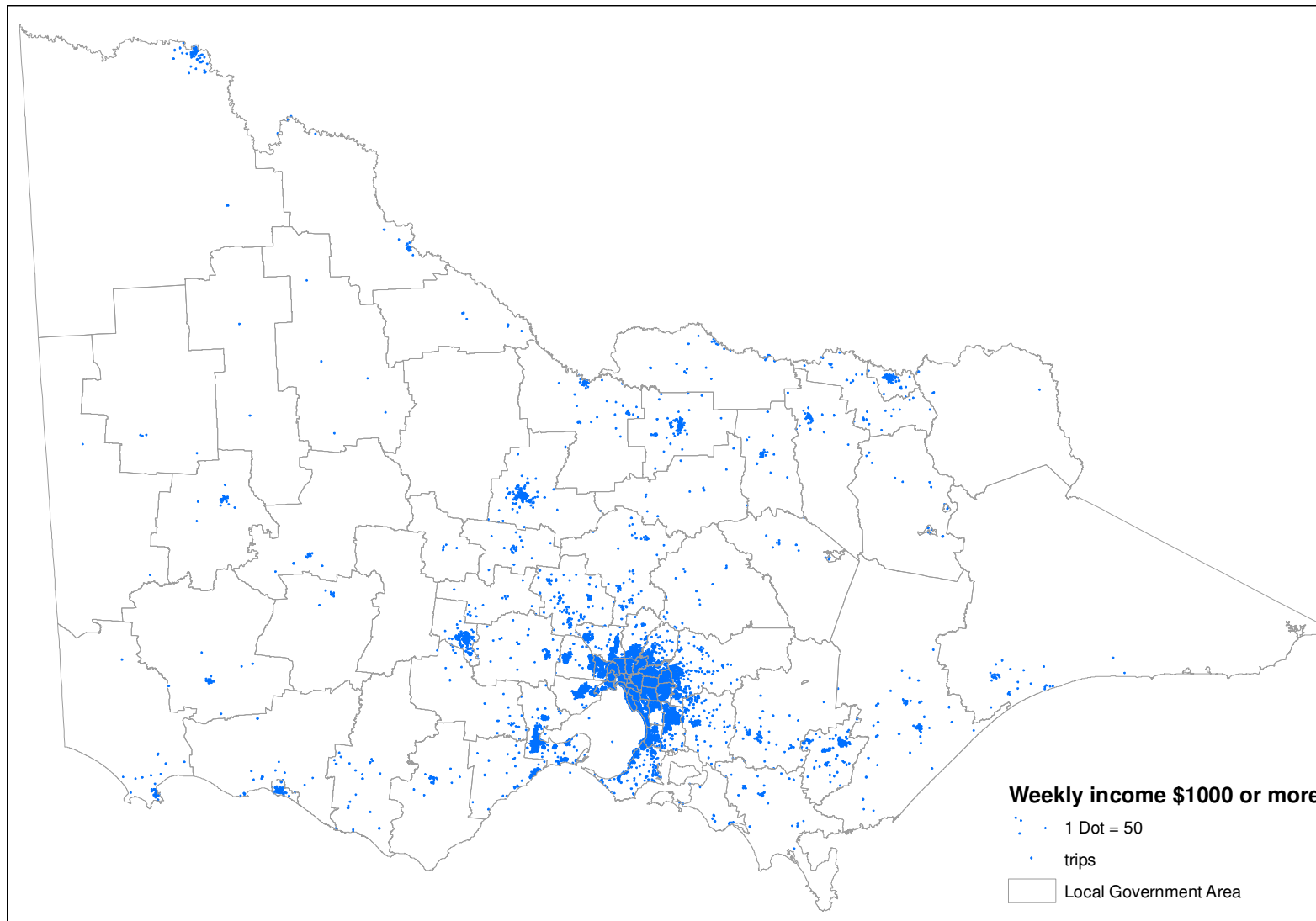


Figure 128: Origins of journey to work for people with weekly income \$1000 or more, Victoria 2006

5.3 Trip Destination

Figure 129-Figure 131 show the destinations of journey to work in the MSD in 2011 for people with weekly income of \$1-\$799, \$800-\$1249 and \$1250 or more respectively. The work destinations of people with low income were widely dispersed within the urban growth boundary. However, as in other income groups, there were more jobs concentrated at or around the CBD than elsewhere in the MSD. The work destinations of people with middle income were less dispersed and concentrated more at or around the Cities of Melbourne, Monash and Greater Dandenong. Many people with high income went to work at or around the Cities of Melbourne and Monash.

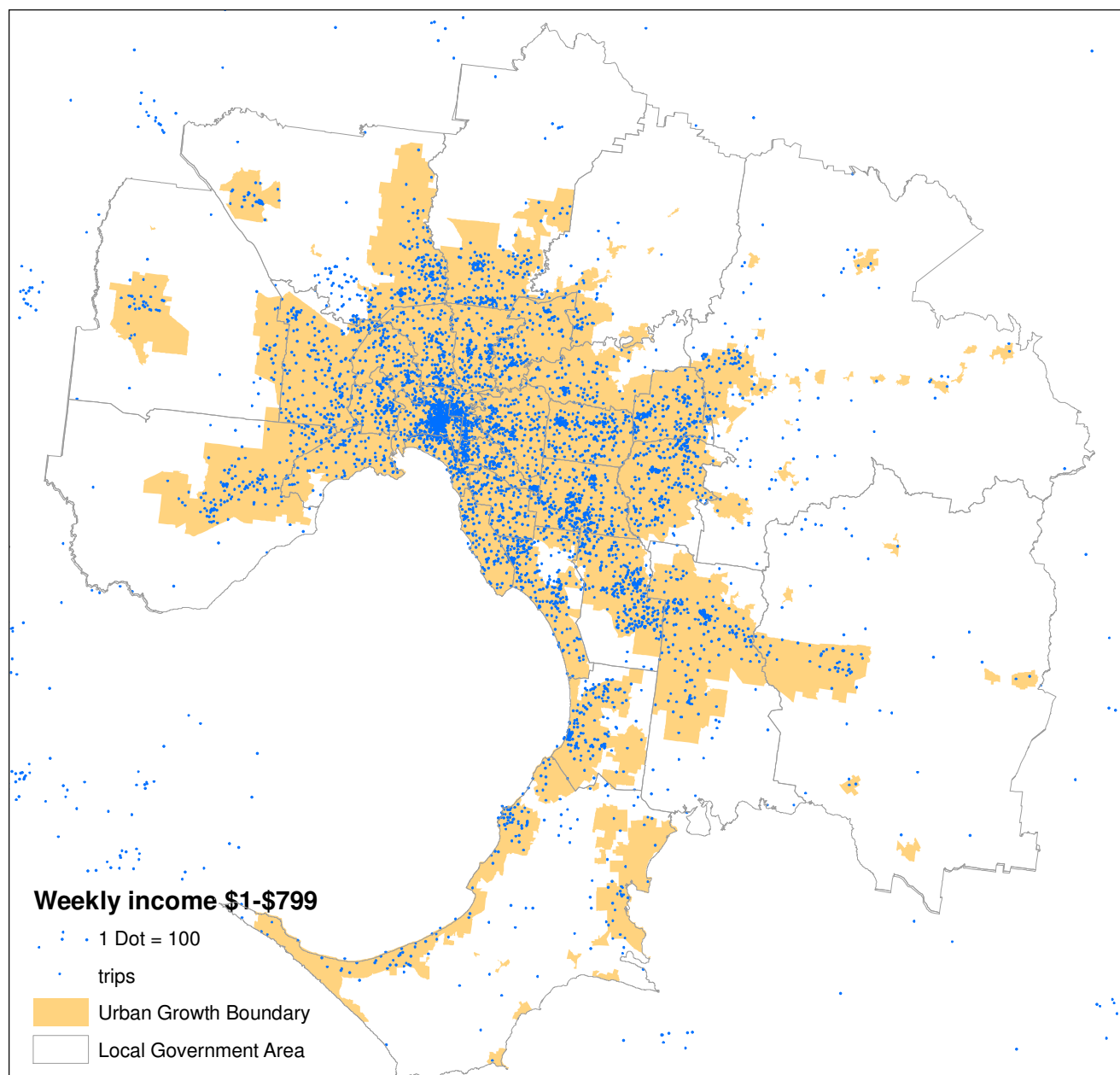


Figure 129: Destinations of journey to work for people with weekly income \$1-\$799, Melbourne Statistical Division 2011

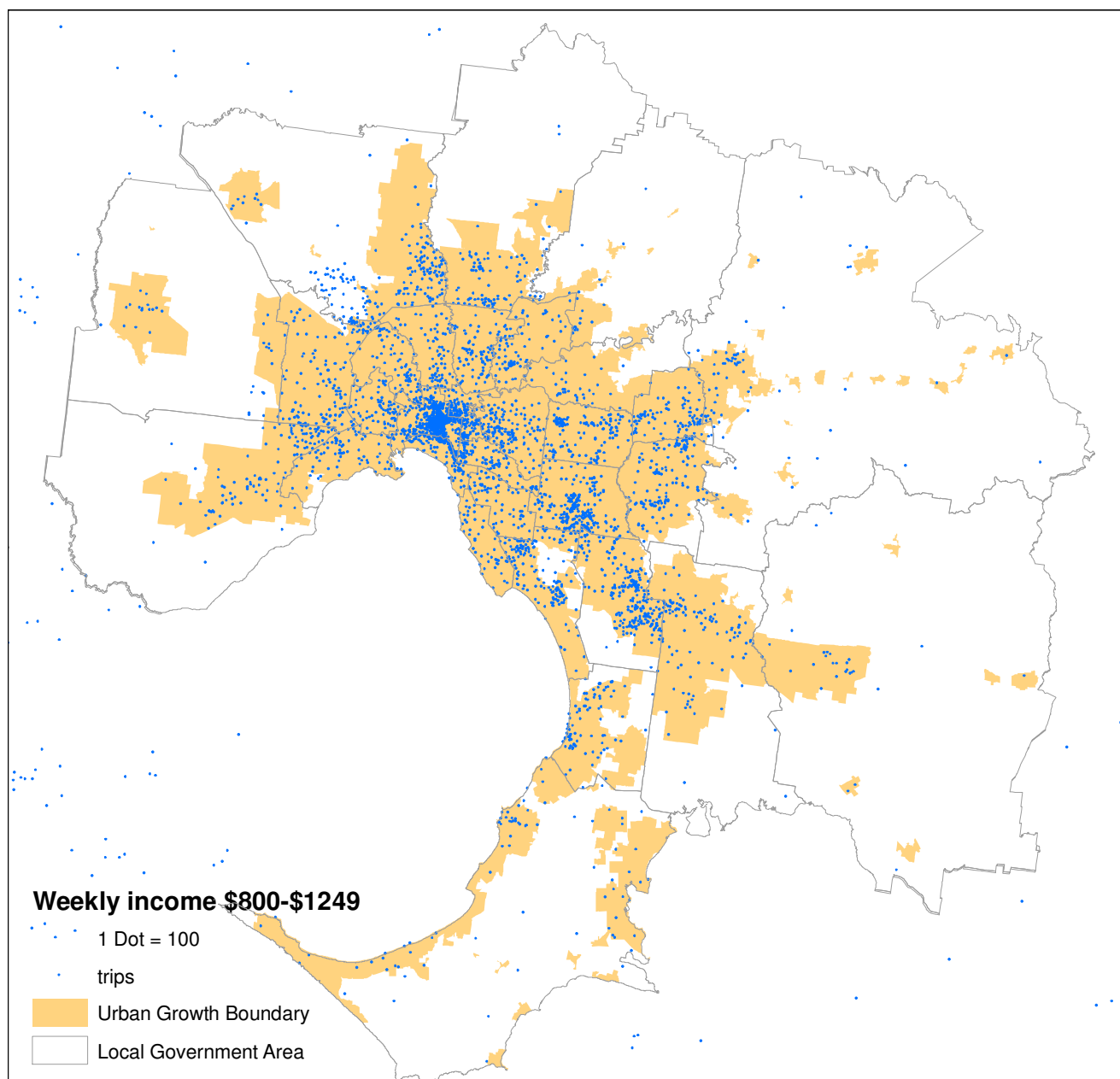


Figure 130: Destinations of journey to work for people with weekly income \$800-\$1249, Melbourne Statistical Division 2011

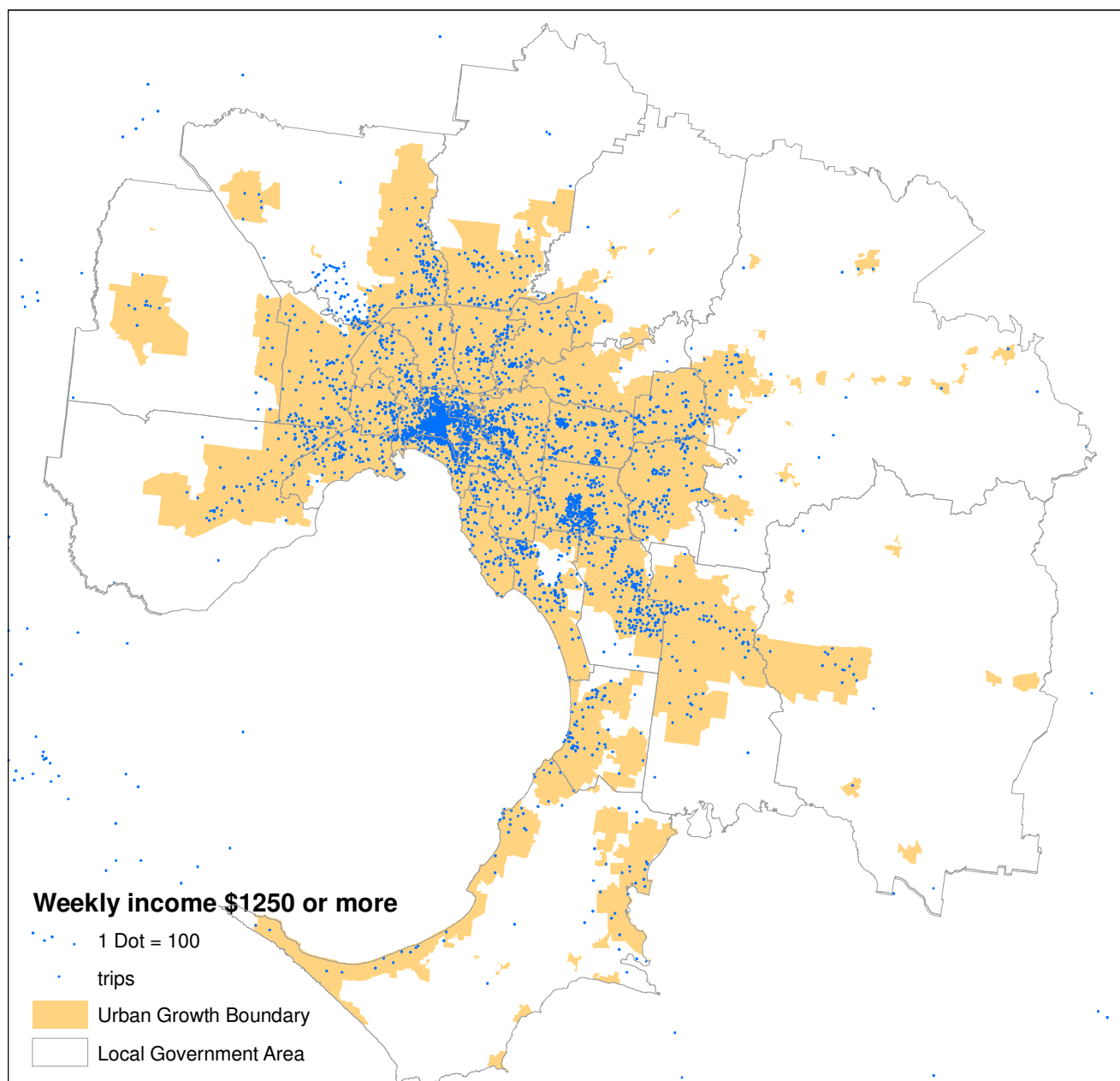


Figure 131: Destinations of journey to work for people with weekly income \$1250 or more, Melbourne Statistical Division 2011

Figure 132-Figure 134 show the destinations of journey to work in Victoria in 2011 for people with weekly income of \$1-\$799, \$800-\$1249 and \$1250 or more respectively. As for the trip origins, there was little difference in the spatial distribution of trip destinations for the different income groups in the rest of Victoria.

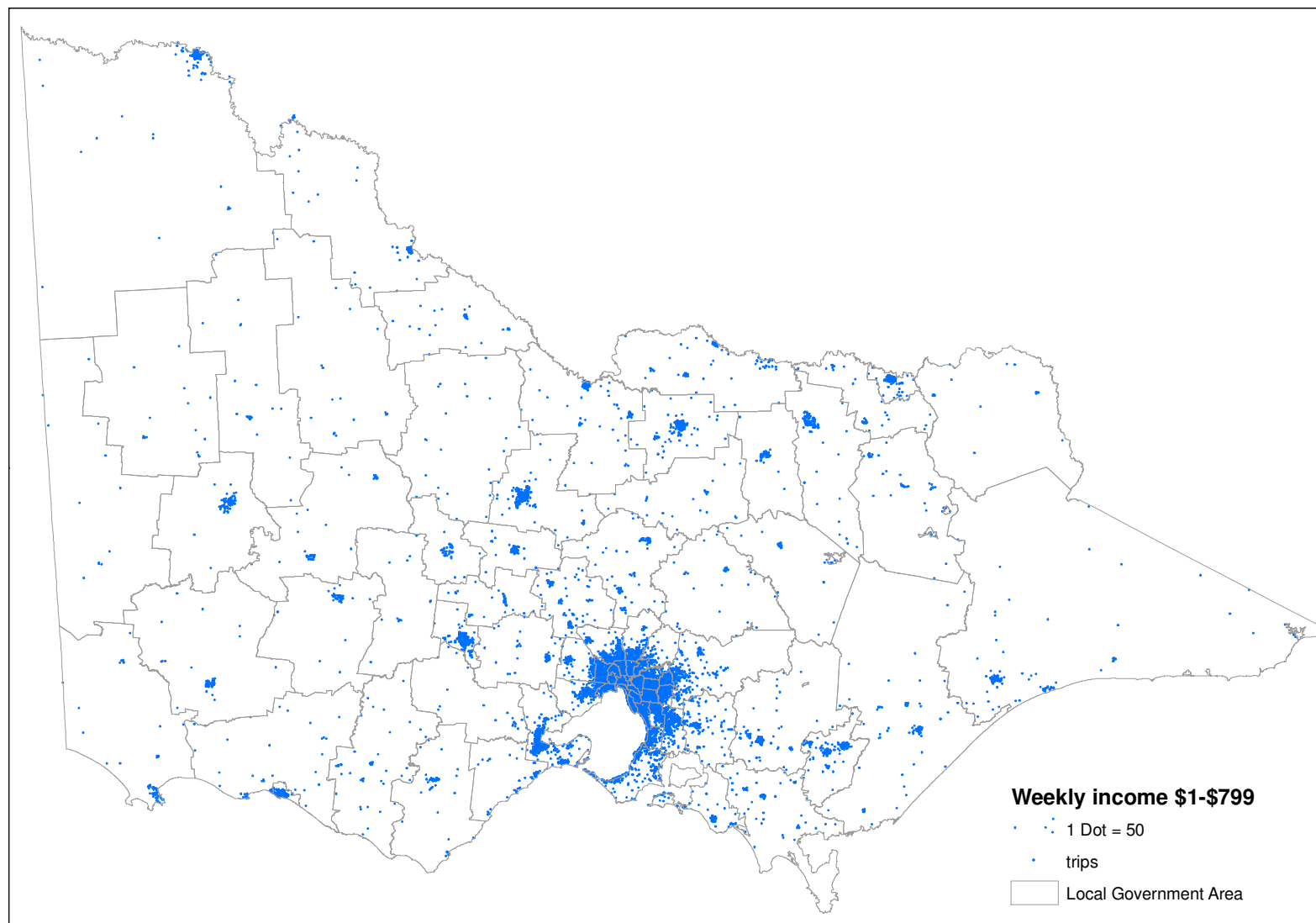


Figure 132: Destinations of journey to work for people with weekly income \$1-\$799, Victoria 2011

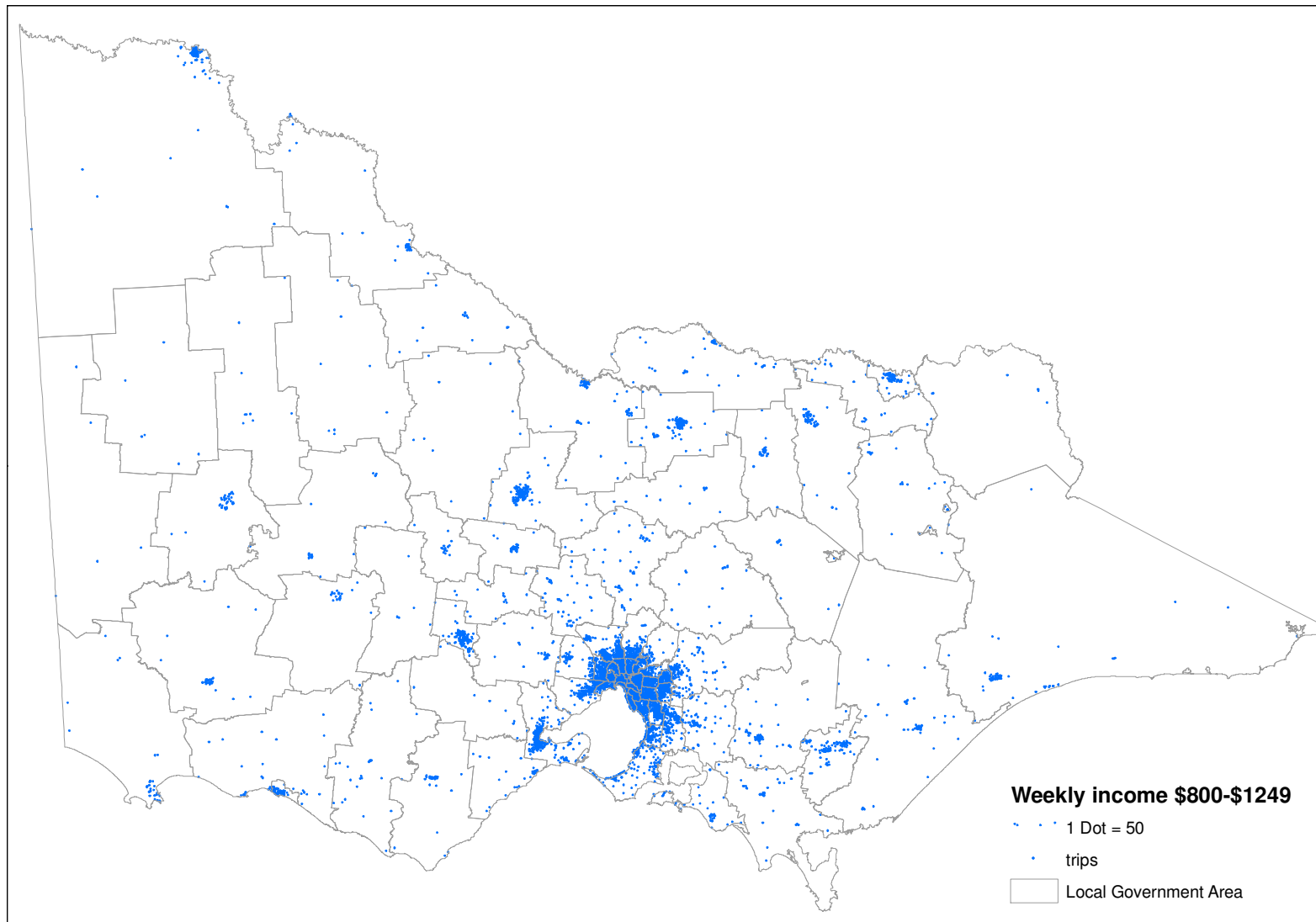


Figure 133: Destinations of journey to work for people with weekly income \$800-\$1249, Victoria 2011

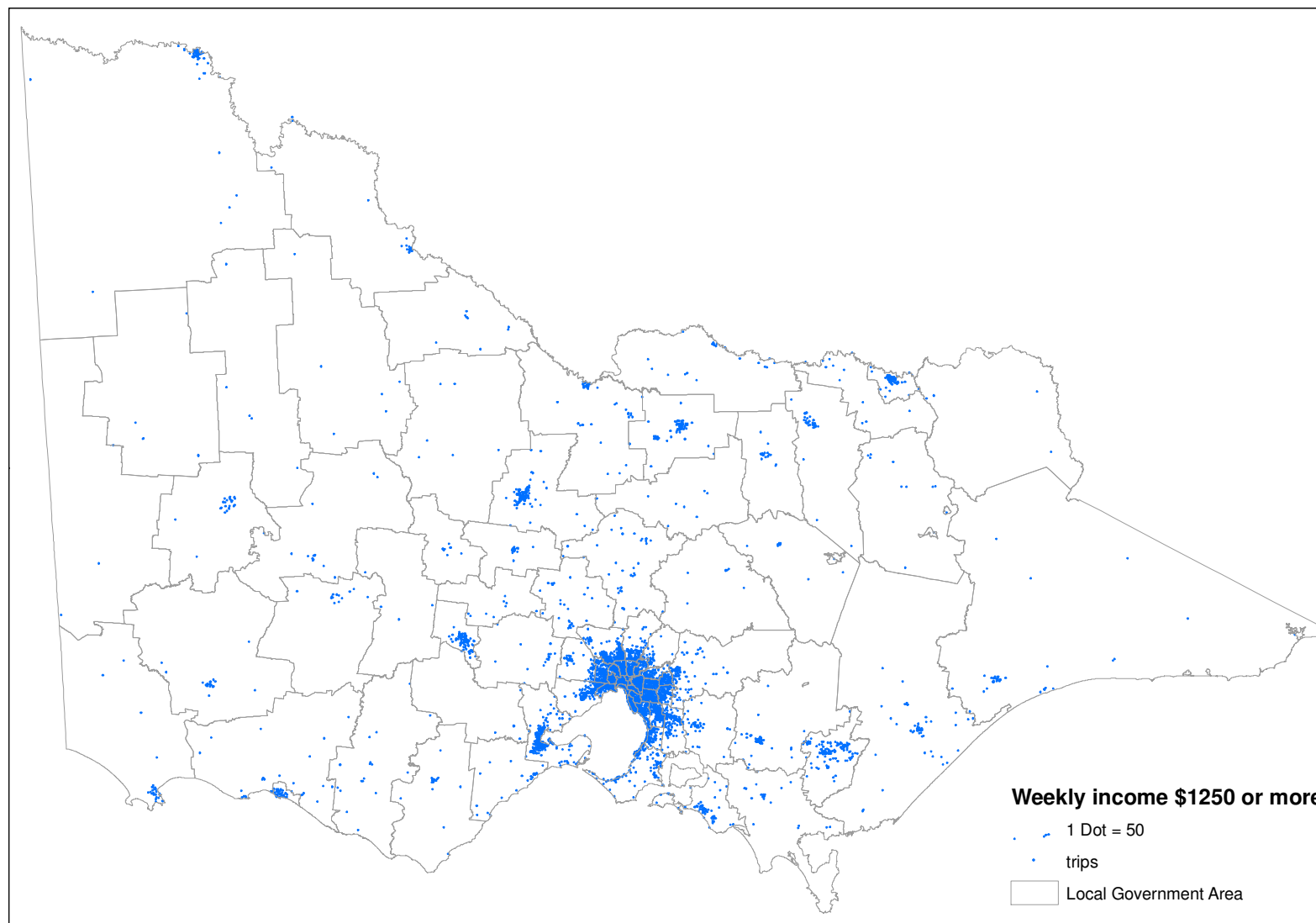


Figure 134: Destinations of journey to work for people with weekly income \$1250 or more, Victoria 2011

Figure 135-Figure 137 show the destinations of journey to work in the MSD in 2006 for people with weekly income of \$1-\$599, \$600-\$999 and \$1000 or more respectively¹. The work destinations of people with low income were similar to those with middle income, although there were more people with middle income working at or around the City of Melbourne. This was different from 2011 in which the work destinations of the low income group were more dispersed. Similar to 2011, many people with high income went to work at or around the Cities of Melbourne and Monash.

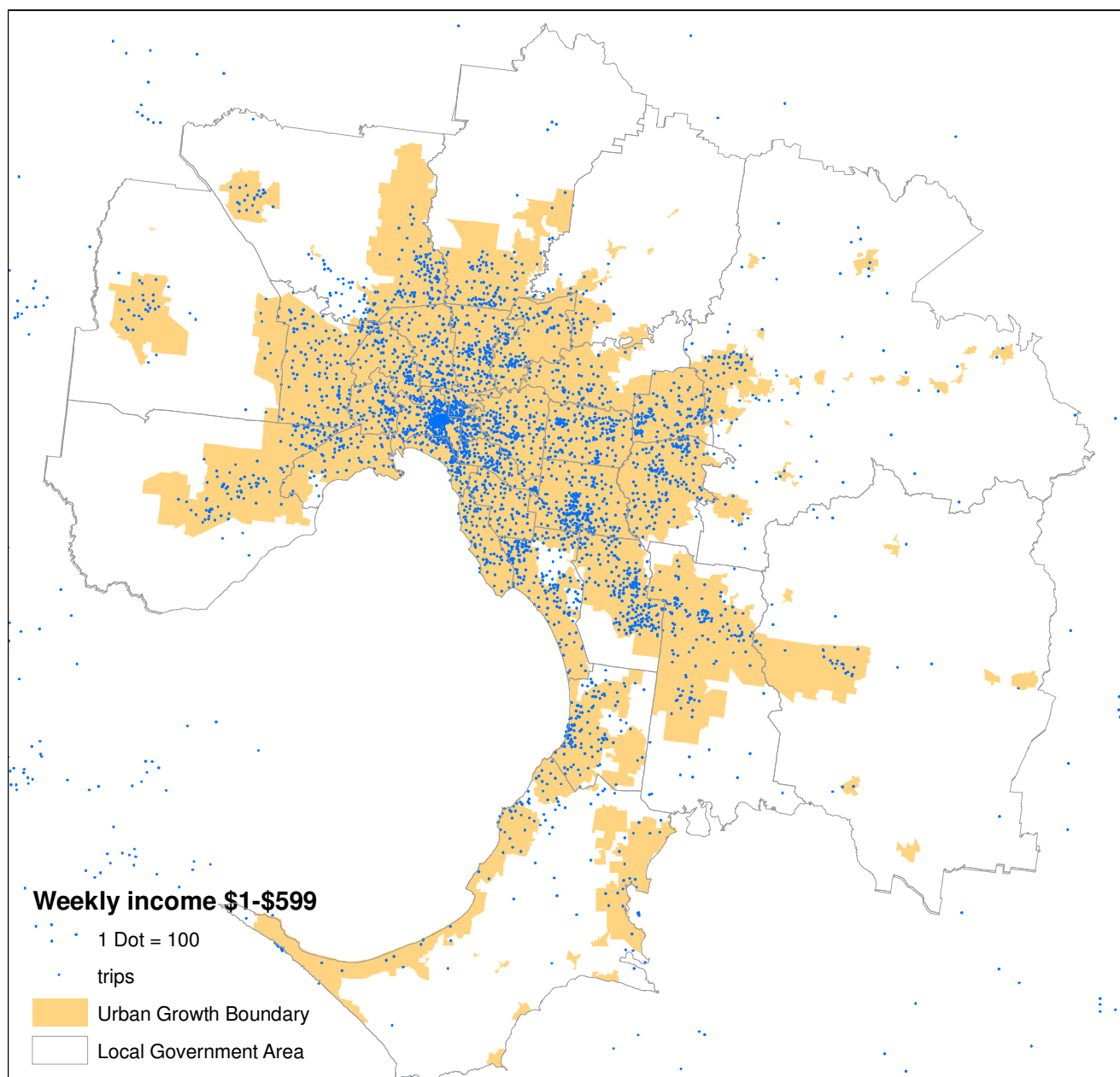


Figure 135: Destinations of journey to work for people with weekly income \$1-\$599, Melbourne Statistical Division 2006

¹ Fine detail of destinations by income was not available for 2006. Only number of trips to each SLA was available for each income group. The fine detail of destinations within each SLA was estimated with the distribution of destinations of all work trips.

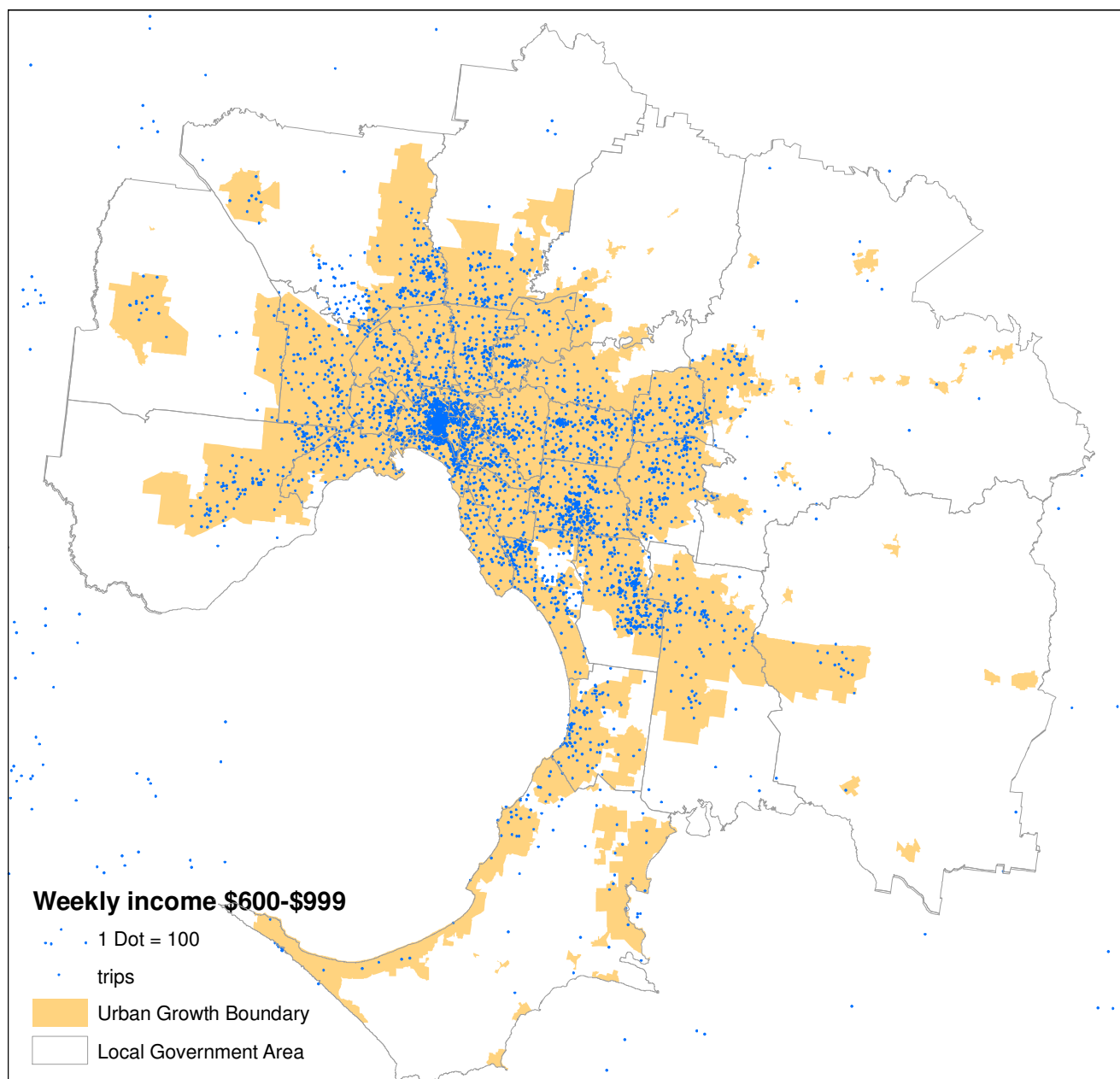


Figure 136: Destinations of journey to work for people with weekly income \$600-\$999, Melbourne Statistical Division 2006

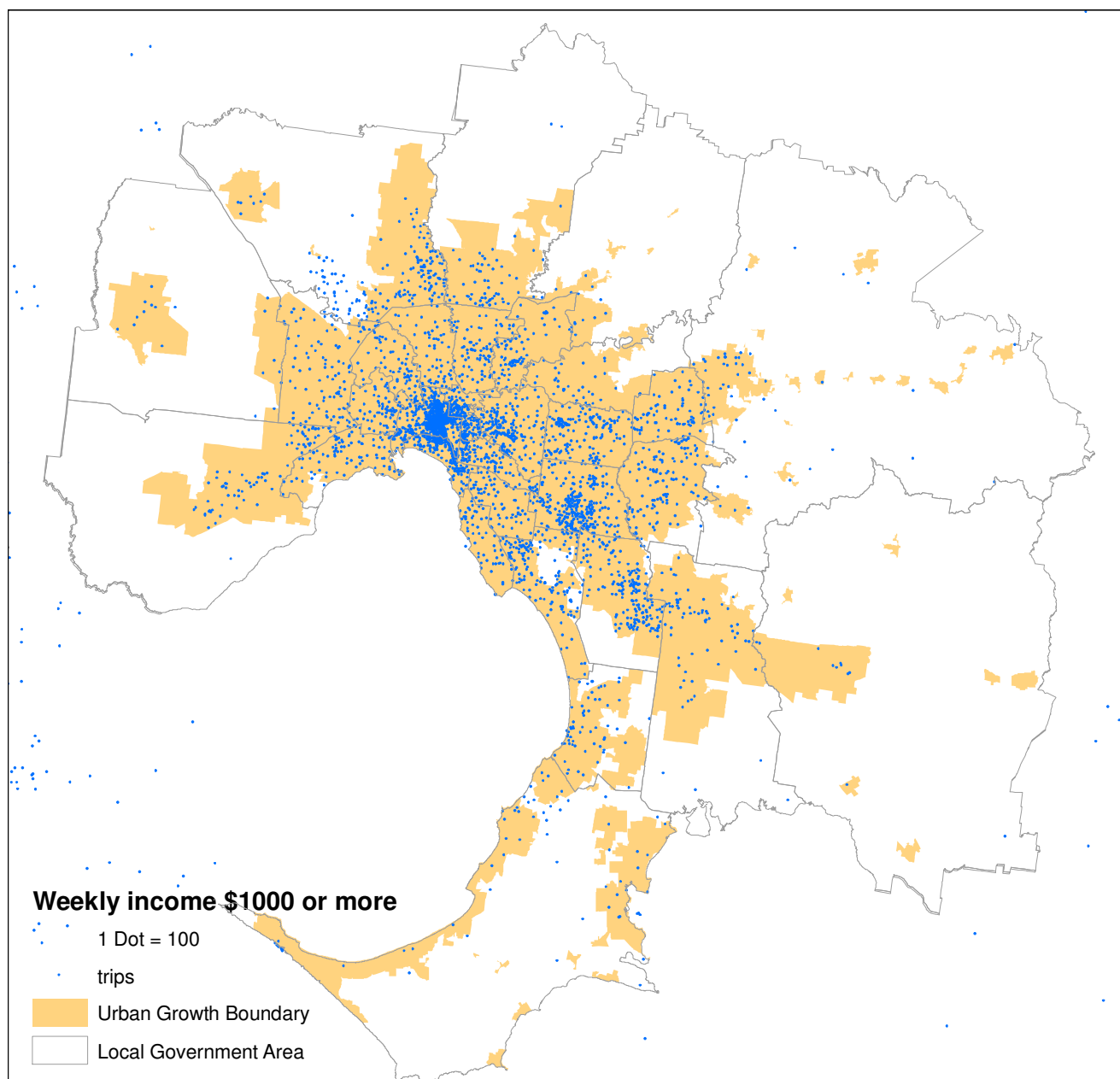


Figure 137: Destinations of journey to work for people with weekly income \$1000 or more, Melbourne Statistical Division 2006

6 Method of Travel by Occupation

6.1 Mode Share

Figure 138 and Figure 139 show the total work trips by occupation in 2011 for the MSD and rest of Victoria respectively. The number of work trips reflected the number of people employed for each occupation. Professionals undertook the highest number of work trips in both the MSD and rest of Victoria. In general, the proportion of blue collar jobs (technician and trades workers, machine operators and drivers, and labourers) in the rest of Victoria was higher than that in the MSD.

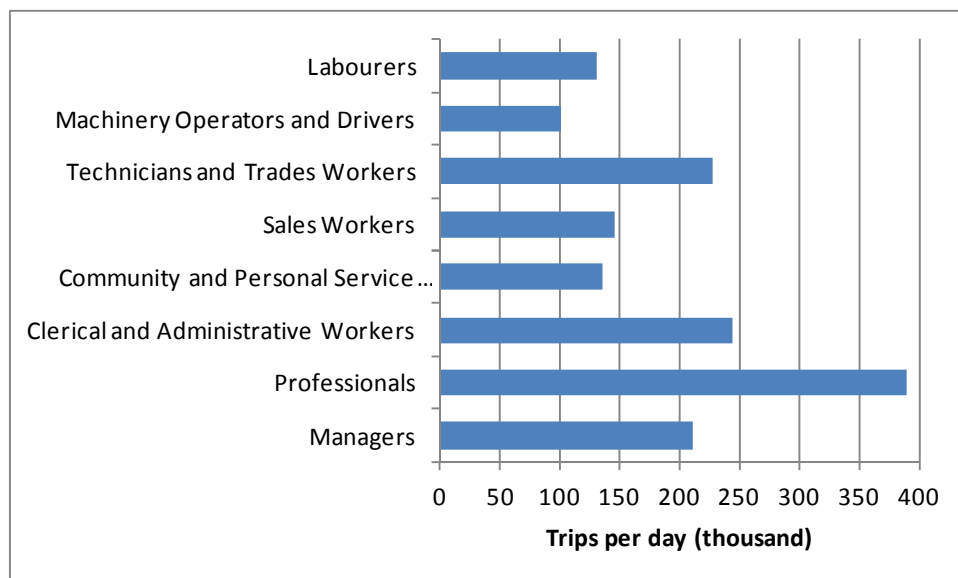


Figure 138: Total work trips by occupation, Melbourne Statistical Division 2011

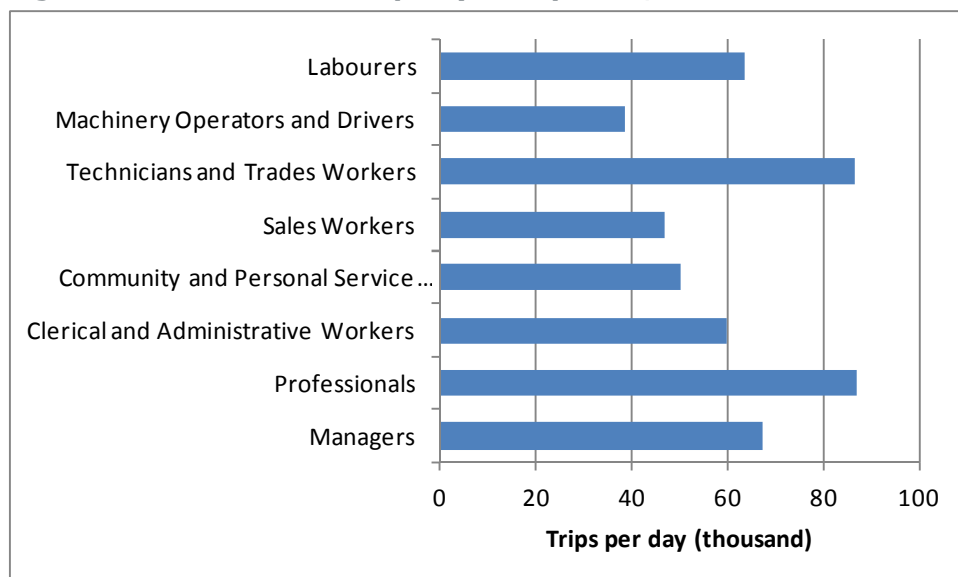


Figure 139: Total work trips by occupation, rest of Victoria 2011

Figure 140 and Figure 141 show the total work trips by occupation in 2006 for the MSD and rest of Victoria respectively. The proportion of work trips undertaken by each occupation was similar to those in 2011 in both MSD and rest of Victoria. The proportion of community and personal service workers for the rest of Victoria, however, was lower than that in 2011.

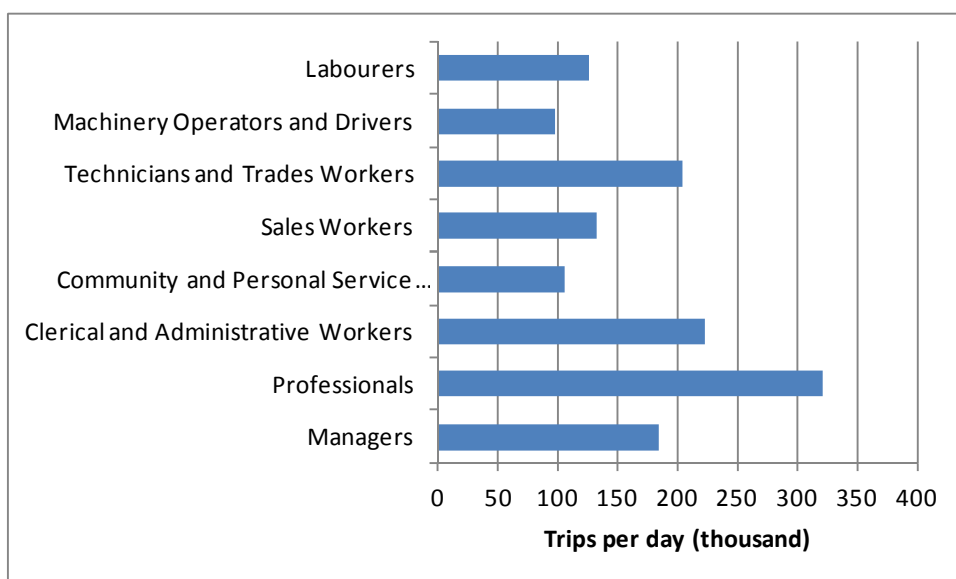


Figure 140: Total work trips by occupation, Melbourne Statistical Division 2006

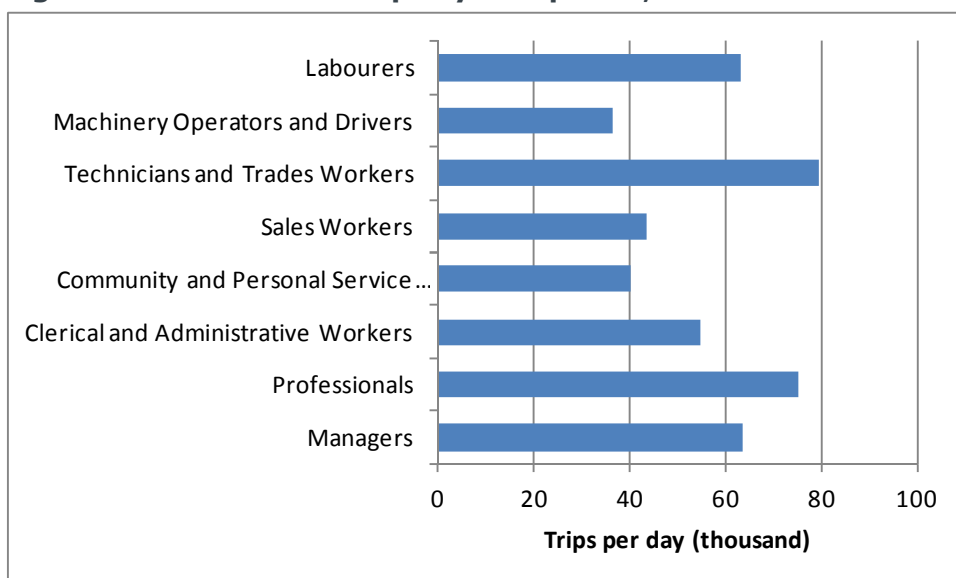


Figure 141: Total work trips by occupation, rest of Victoria 2006

Figure 142 and Figure 143 show the mode share of journey to work by occupation in 2011 for the MSD and rest of Victoria respectively. The private vehicle share in the MSD was the highest for machinery operators and drivers with a share of 92%, and the lowest for professionals with a share of 69%. A significant number of professionals caught public transport, rode or walked to work. In fact, the professionals had the highest share of cycling of 3%. However, clerical and administrative workers had the highest share of public transport of 25%. Community and personal service workers had the highest share of walk of 5%. In general, blue collar workers had a higher share of private vehicle than white collar workers. On the other hand, white collar workers had higher shares of public transport, bicycle and walk than blue collar workers.

Private vehicle share for the rest of Victoria was high across all occupations. Machinery operators and drivers had the highest private vehicle share of 93% and managers had the lowest of 85%. Walk share was significant across all occupations with managers having the highest share of 10%. The shares of public transport and bicycle were low across all

occupations. Clerical and administrative workers had the highest public transport a share of 5%. Labourers had the highest bicycle share of 2%.

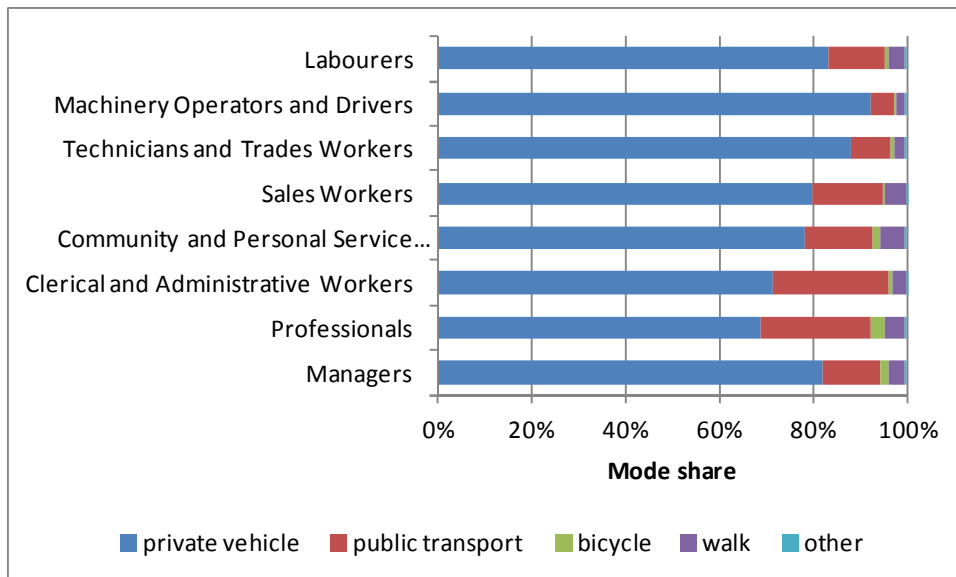


Figure 142: Mode share of journey to work by occupation, Melbourne Statistical Division 2011

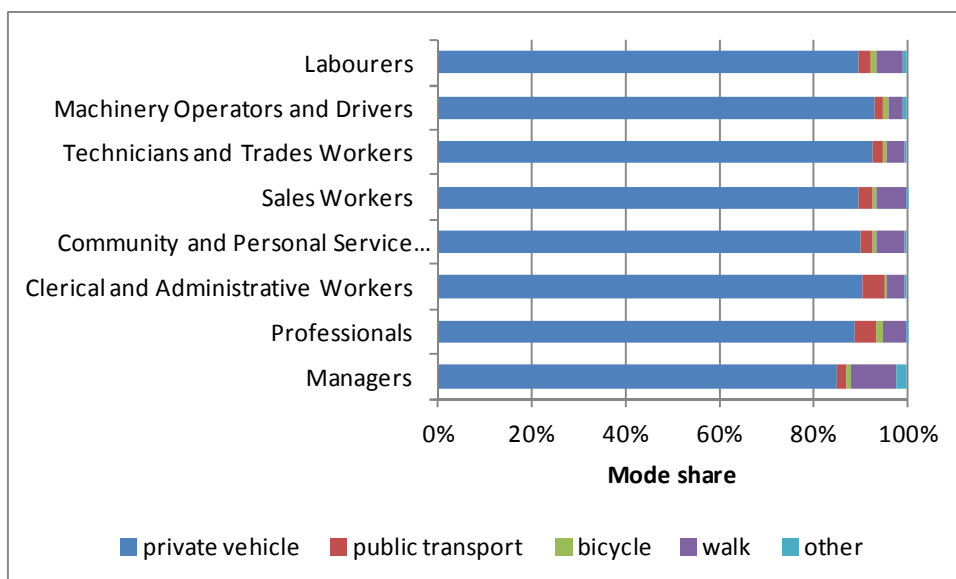


Figure 143: Mode share of journey to work by occupation, rest of Victoria 2011

Figure 144 and Figure 145 show the mode share of journey to work by occupation in 2006 for the MSD and rest of Victoria respectively. The pattern was similar to that in 2011, except that clerical and administrative workers had the lowest private vehicle share in the MSD, and technicians and trades workers had the highest private vehicle share in the rest of Victoria.

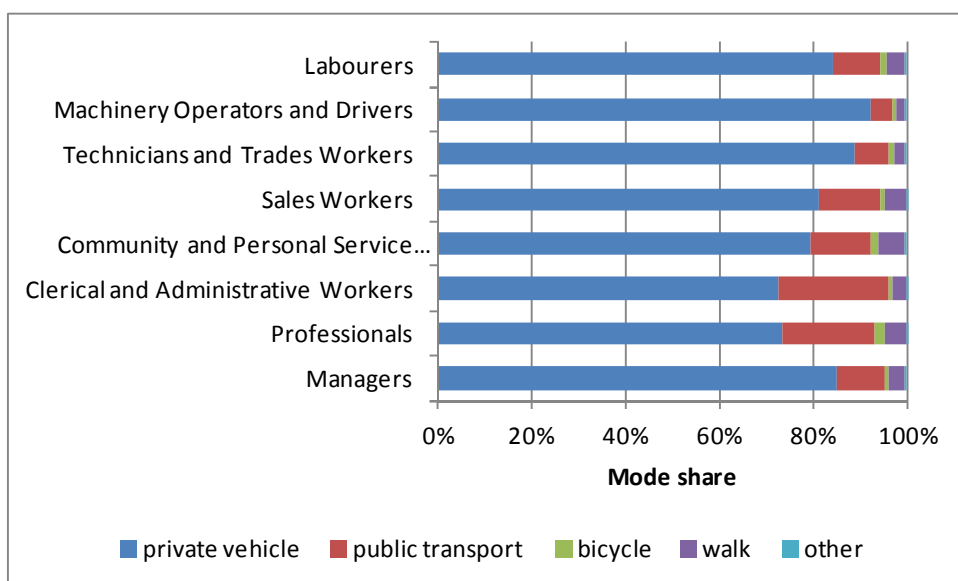


Figure 144: Mode share of journey to work by occupation, Melbourne Statistical Division 2006

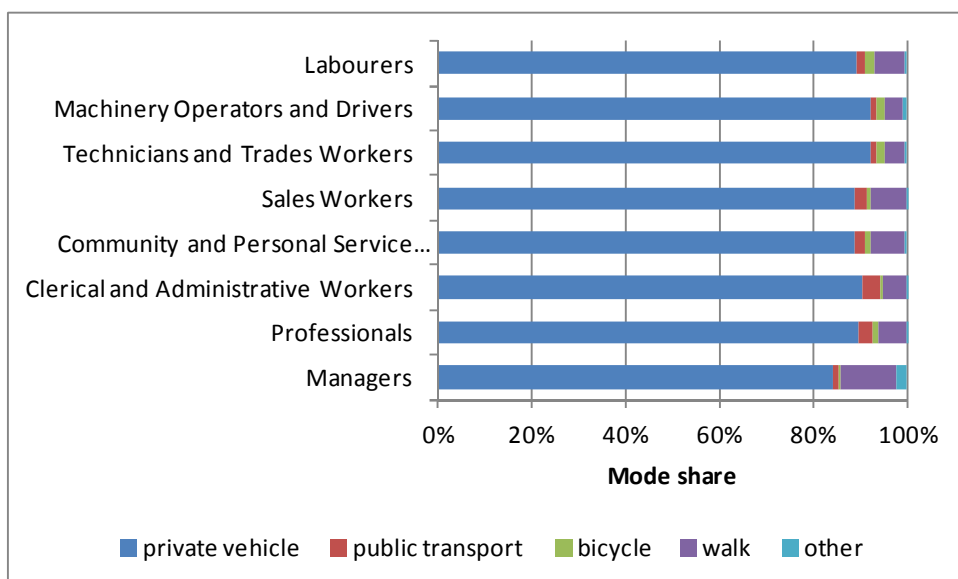


Figure 145: Mode share of journey to work by occupation, rest of Victoria 2006

6.2 Trip Origin

Figure 146 and Figure 147 show the origins of journey to work in the MSD in 2011 for blue and white collar workers respectively. Most blue collar workers came from the western and northern suburbs and outer east and south-eastern suburbs. In contrast, white collar workers came mostly from the inner, eastern and southern suburbs.

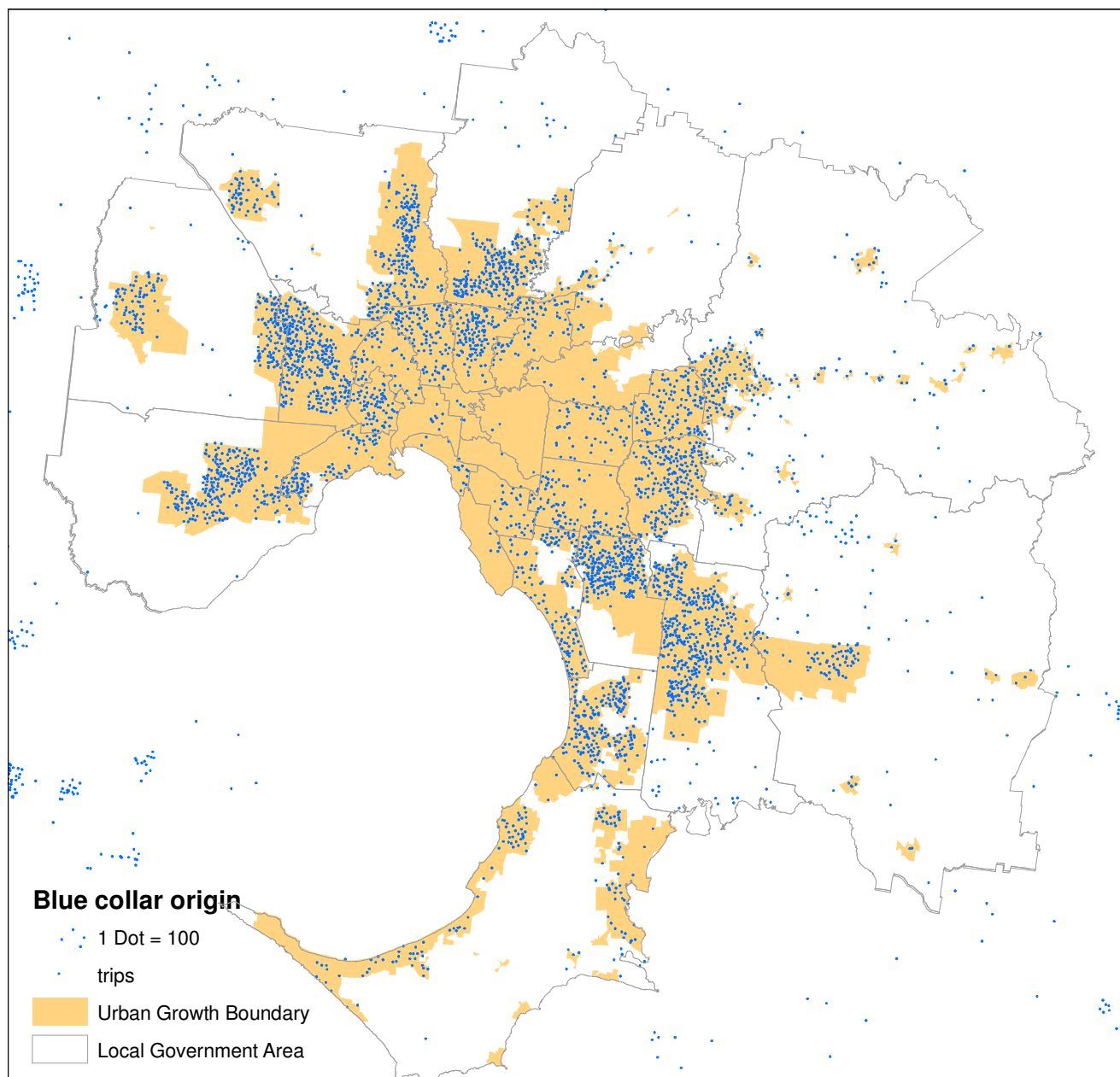


Figure 146: Origins of journey to work for blue collar workers, Melbourne Statistical Division 2011

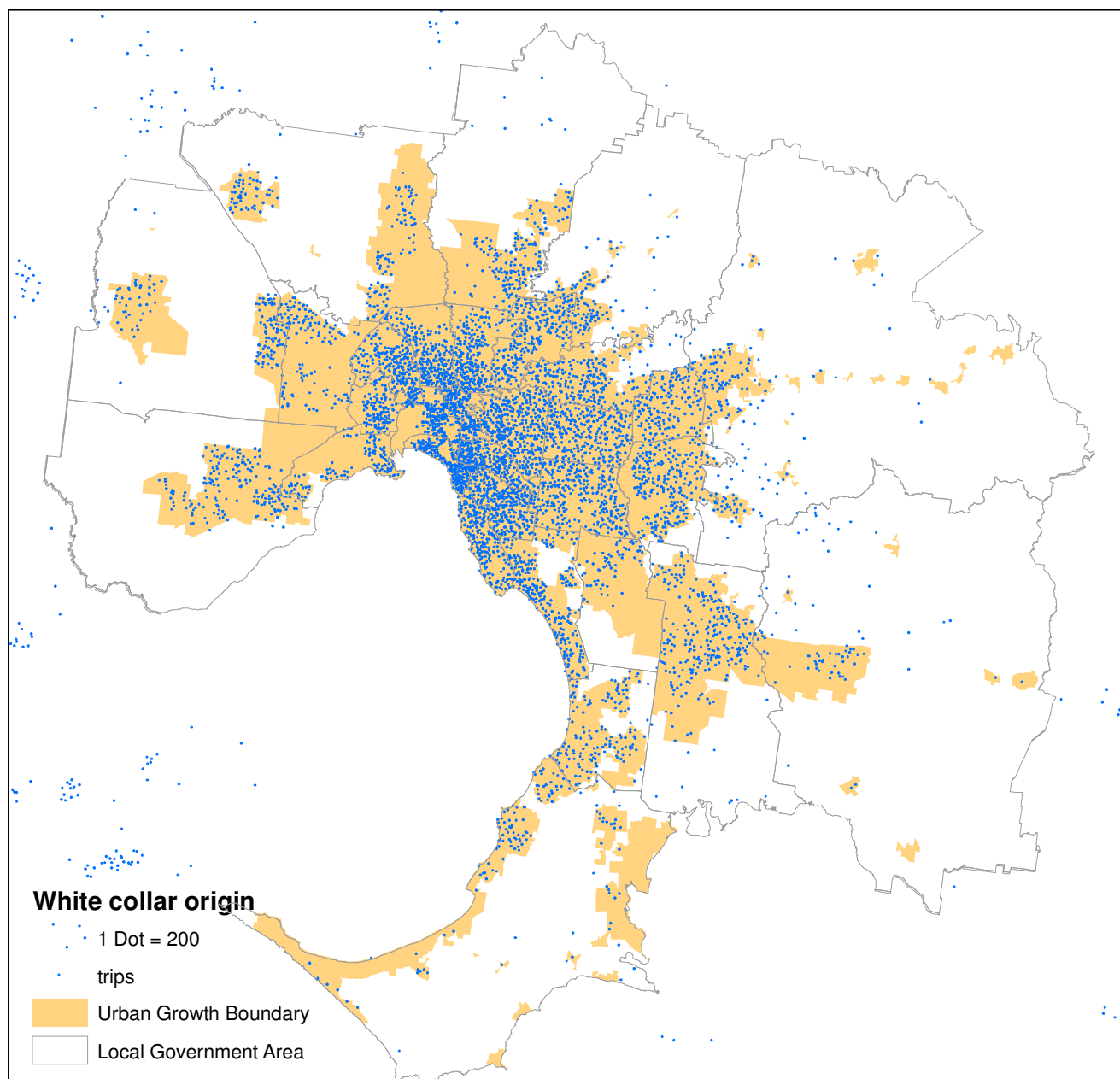


Figure 147: Origins of journey to work for white collar workers, Melbourne Statistical Division 2011

Figure 148 and Figure 149 show the origins of journey to work in Victoria in 2011 for blue and white collar workers respectively. In contrast to the MSD, there was little difference in the spatial distribution of blue and white collar workers in the rest of Victoria.

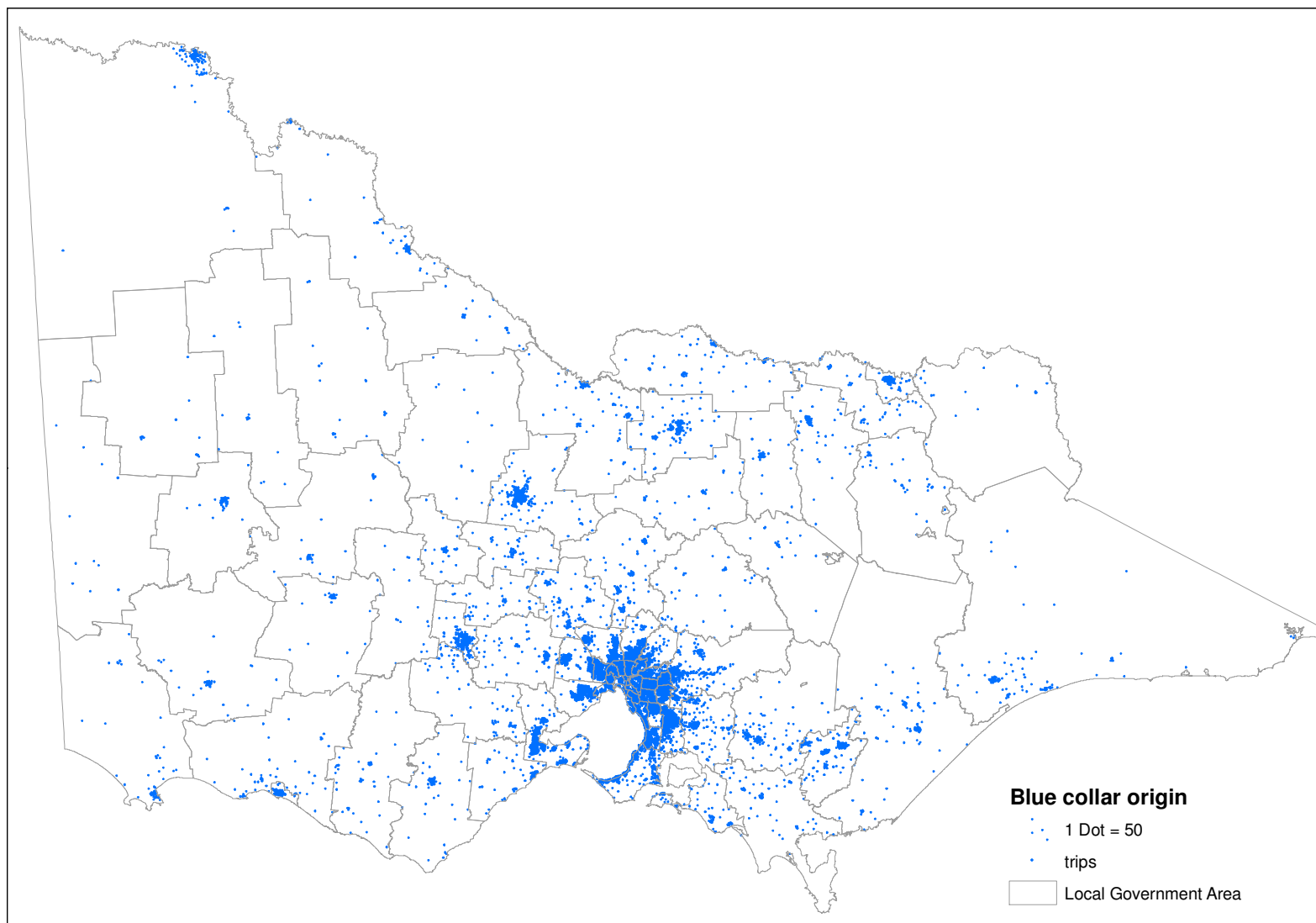


Figure 148: Origins of journey to work for blue collar workers, Victoria 2011

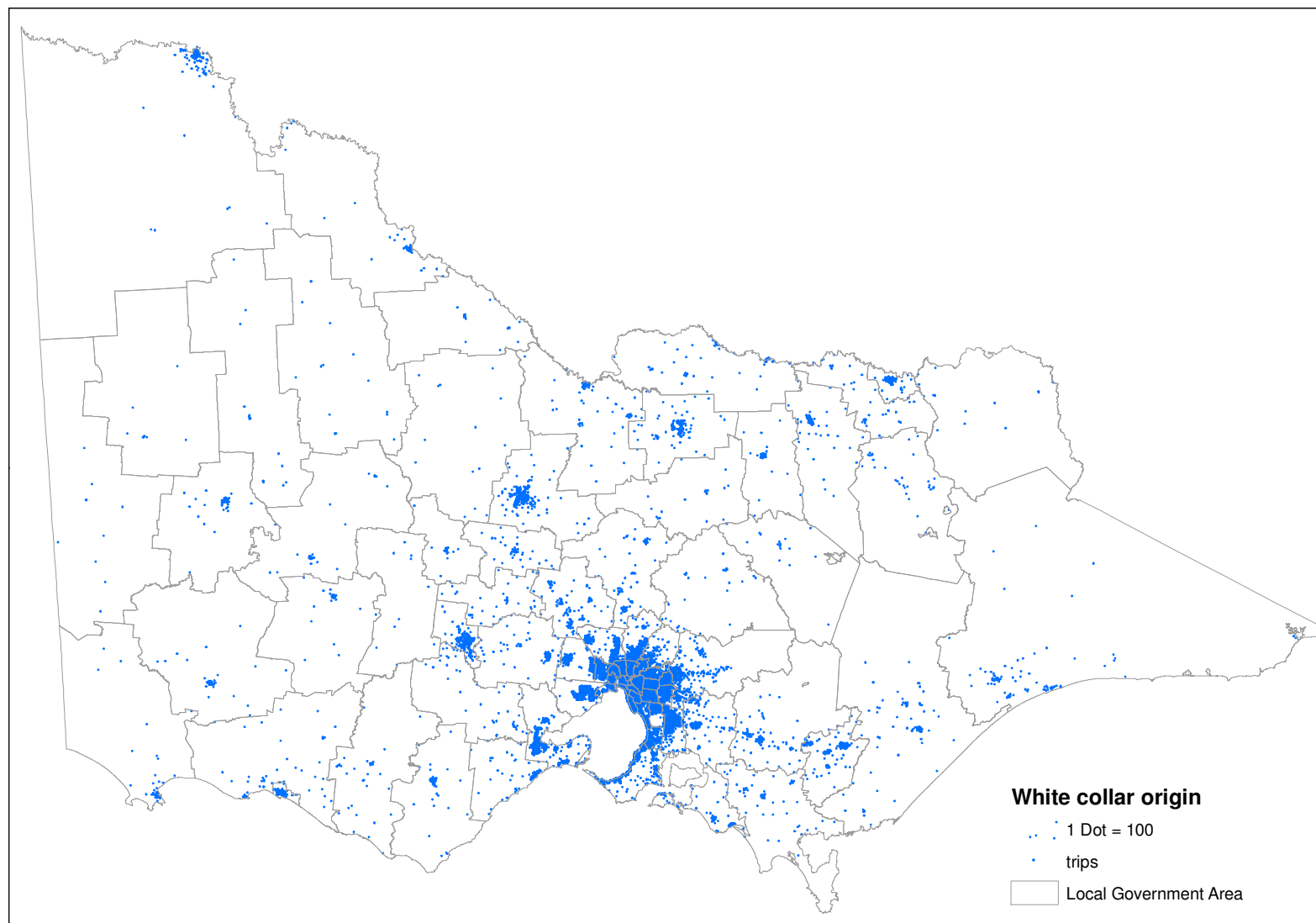


Figure 149: Origins of journey to work for white collar workers, Victoria 2011

Figure 150 and Figure 151 show the origins of journey to work in the MSD in 2006 for blue and white collar workers respectively. The patterns were similar to those in 2011, indicating there was little change in trip origins of blue and white collar workers between 2006 and 2011.

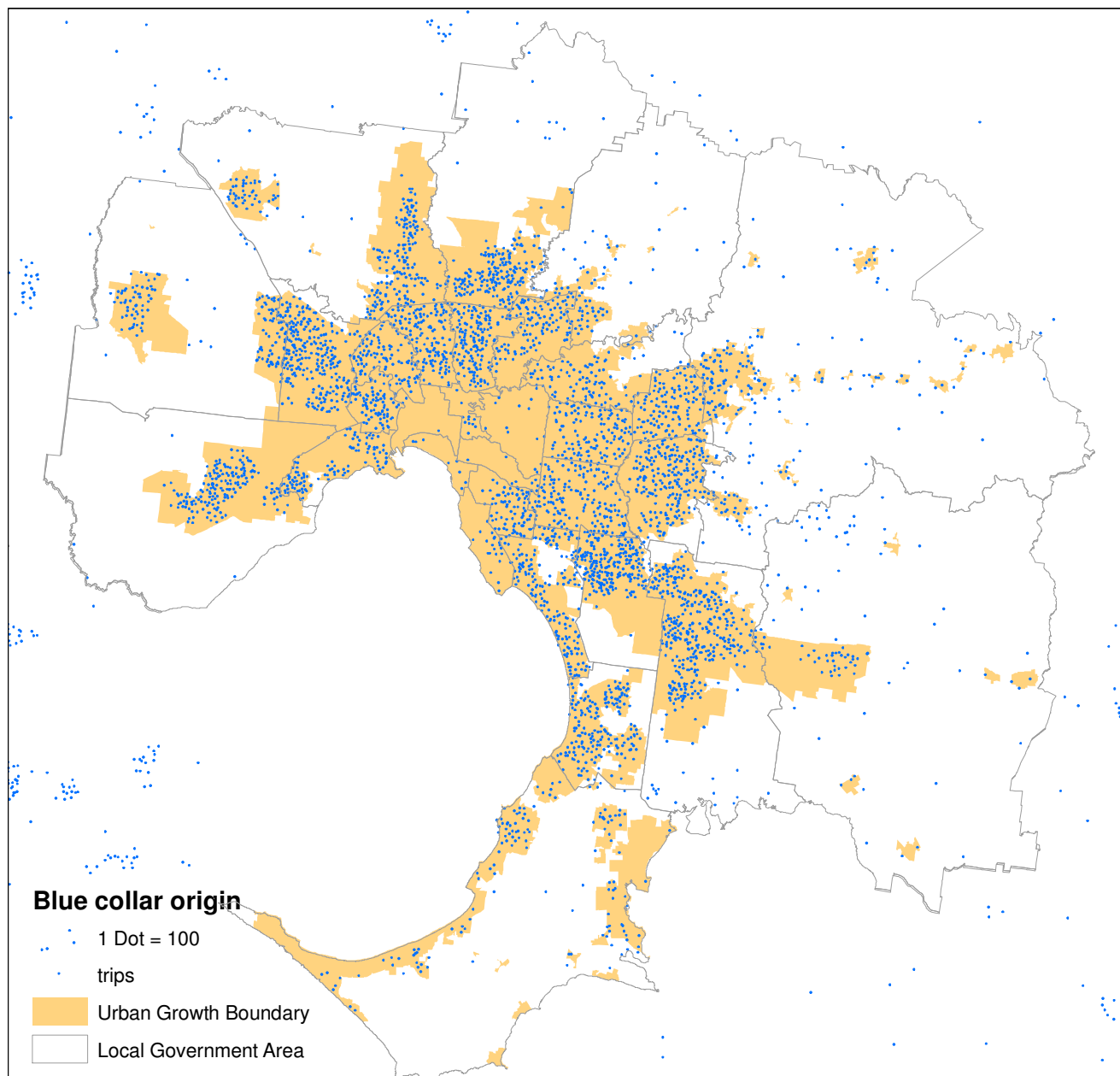


Figure 150: Origins of journey to work for blue collar workers, Melbourne Statistical Division 2006

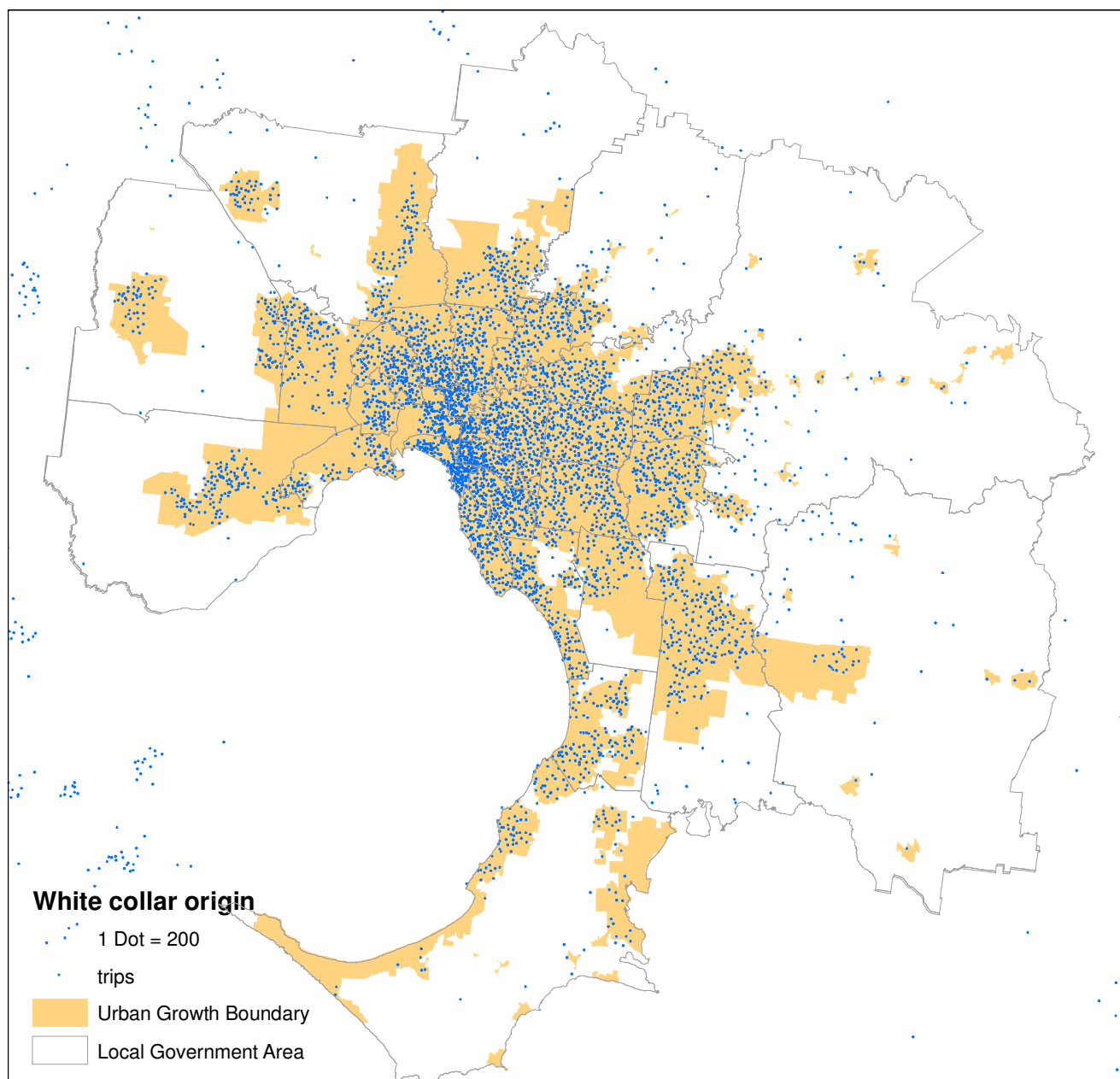


Figure 151: Origins of journey to work for white collar workers, Melbourne Statistical Division 2006

Figure 152 and Figure 153 show the origins of journey to work in Victoria in 2006 for blue and white collar workers respectively. As in 2011, there was little difference in the spatial distribution of blue and white collar workers in the rest of Victoria.

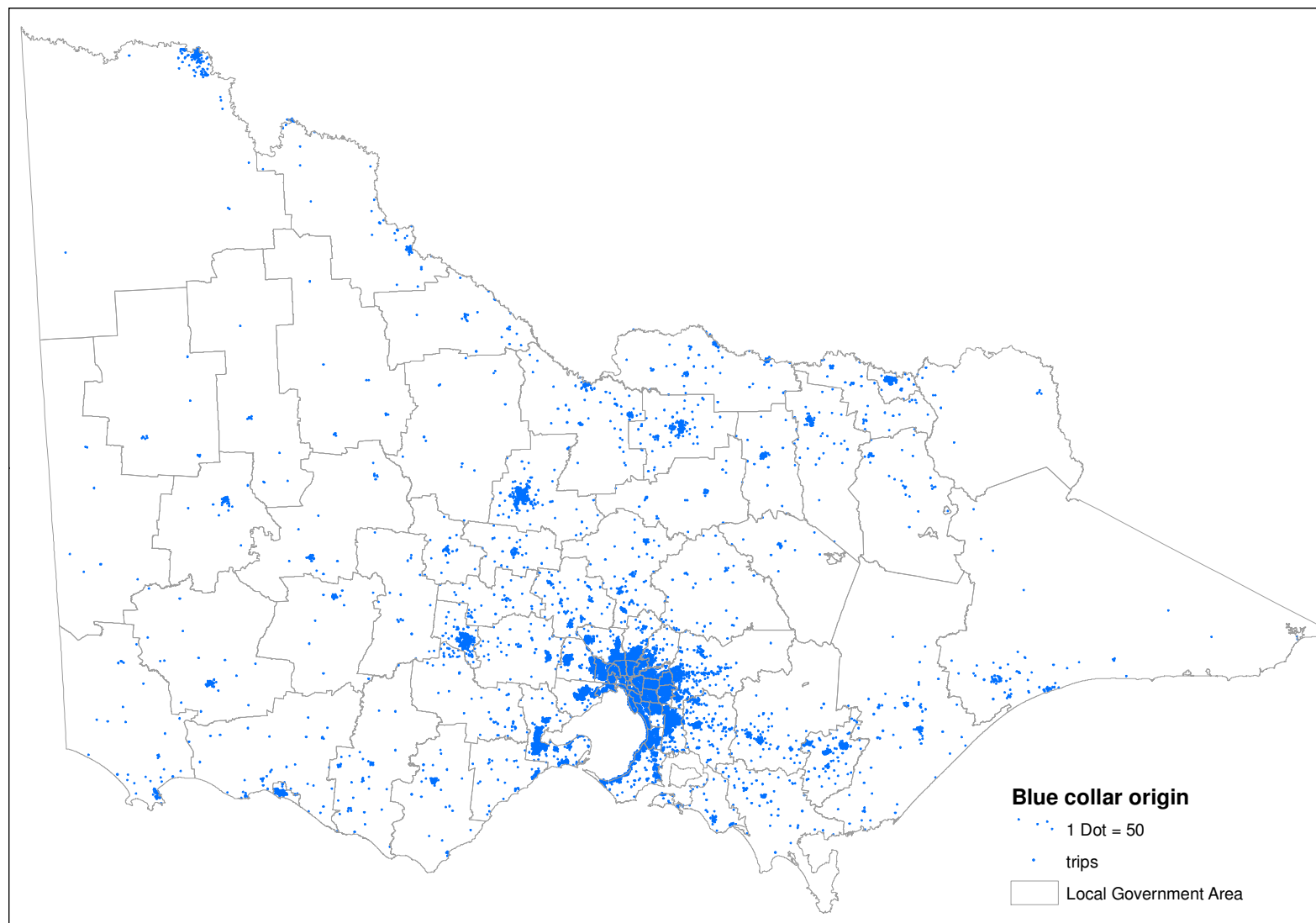


Figure 152: Origins of journey to work for blue collar workers, Victoria 2006

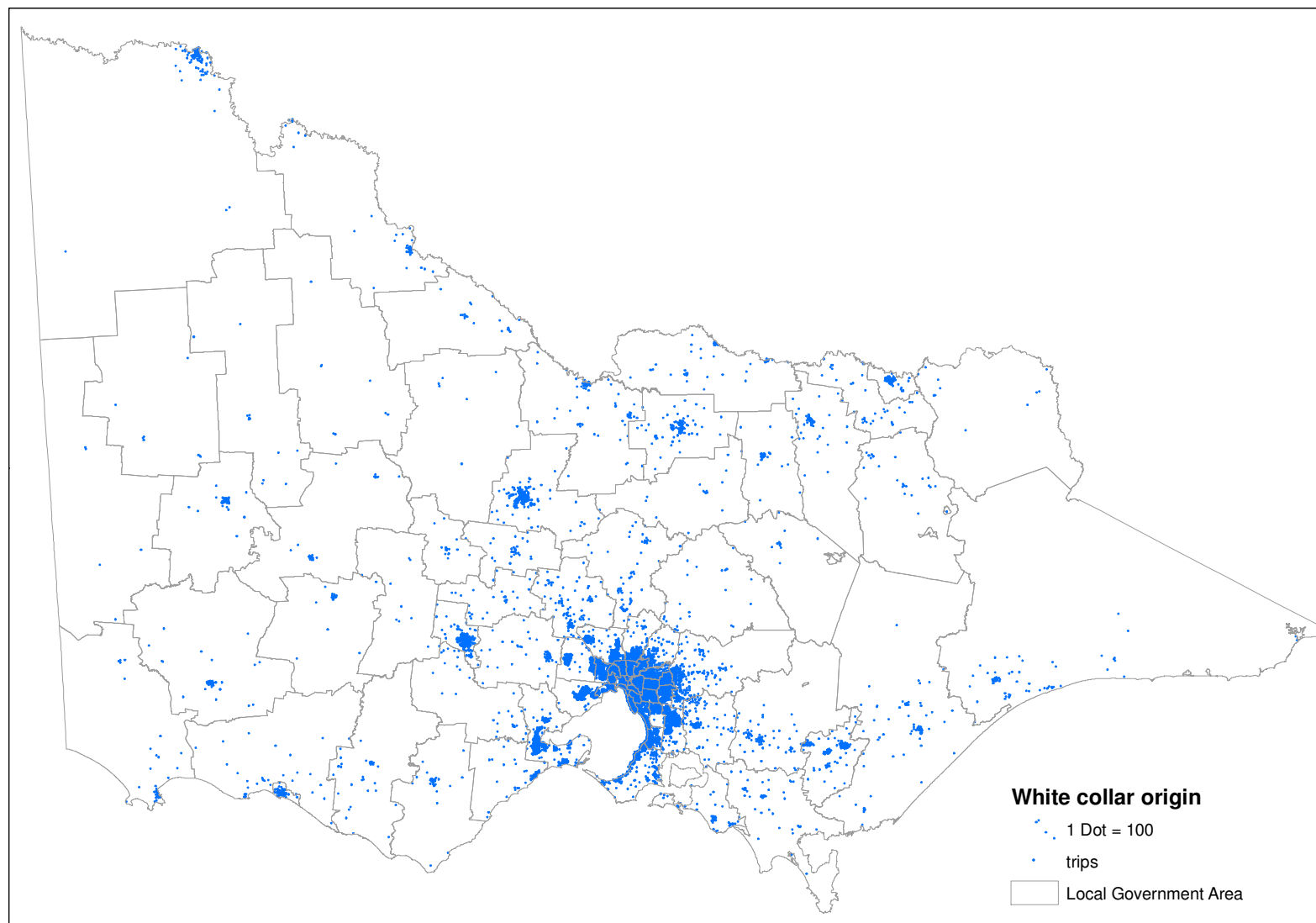


Figure 153: Origins of journey to work for white collar workers, Victoria 2006

6.3 Trip Destination

Figure 154 and Figure 155 show the destinations of journey to work in the MSD in 2011 for blue and white collar workers respectively. Generally, the work destinations of blue collar workers were more dispersed than those of white collar workers, and concentrated around the CBD and some parts of the south-eastern, western and northern suburbs. Many white collar workers went to work at or around the CBD, although the work destinations were dispersed for the rest of the MSD.

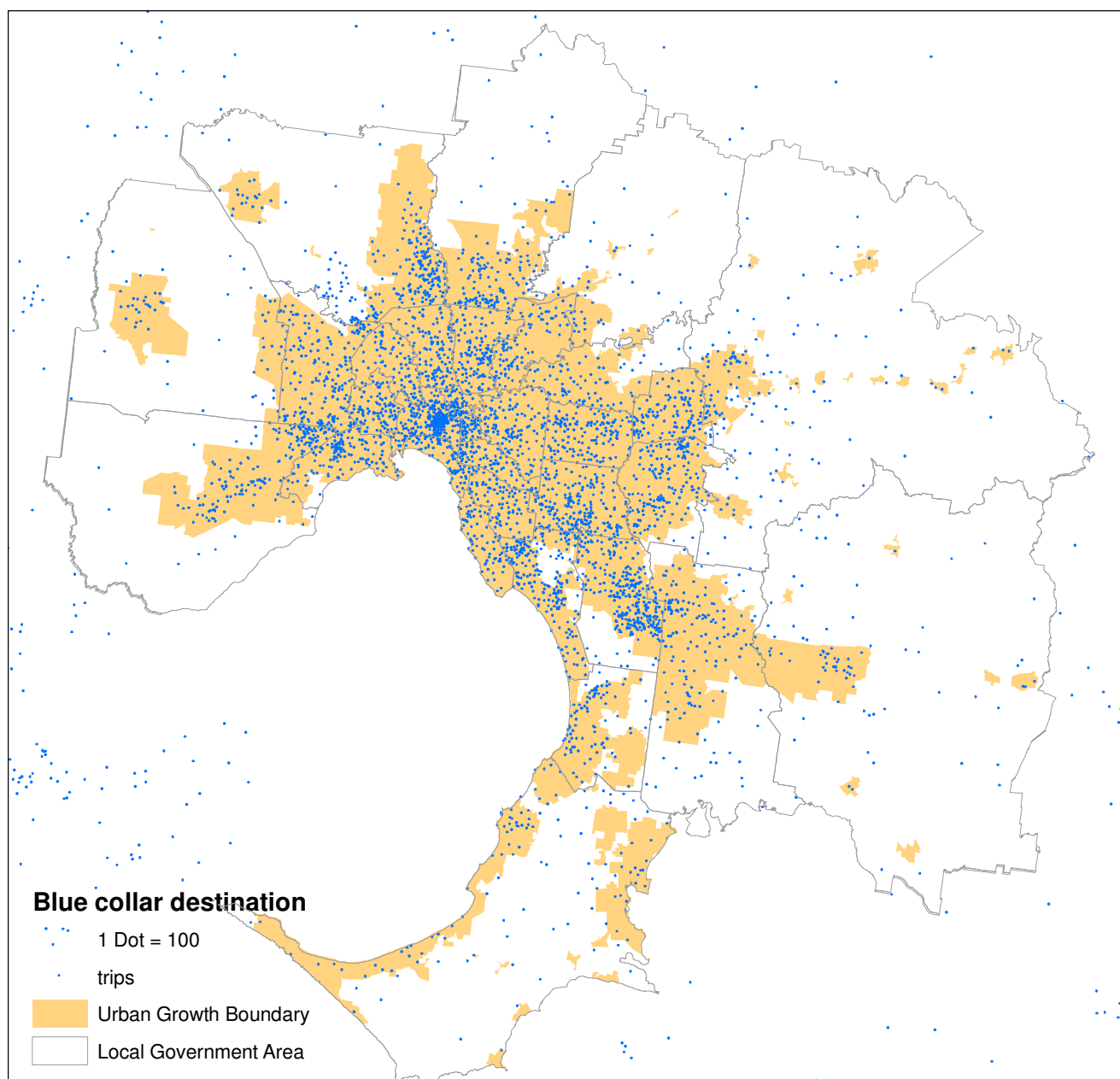


Figure 154: Destinations of journey to work for blue collar workers, Melbourne Statistical Division 2011

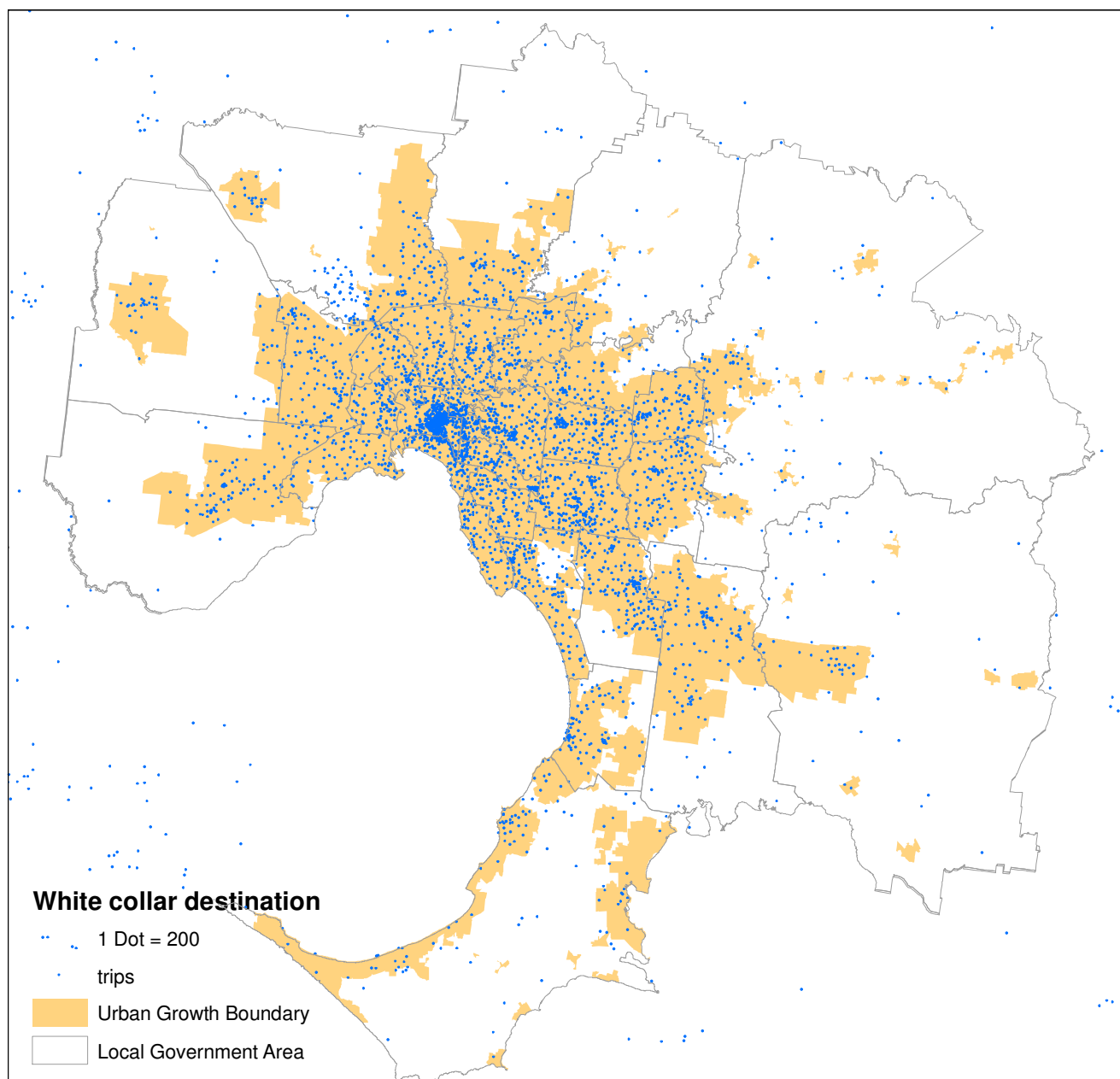


Figure 155: Destinations of journey to work for white collar workers, Melbourne Statistical Division 2011

Figure 156 and Figure 157 show the destinations of journey to work in Victoria in 2011 for blue and white collar workers respectively. As for the trip origins, there was little difference in the spatial distribution of trip destinations for blue and white collar workers in the rest of Victoria.

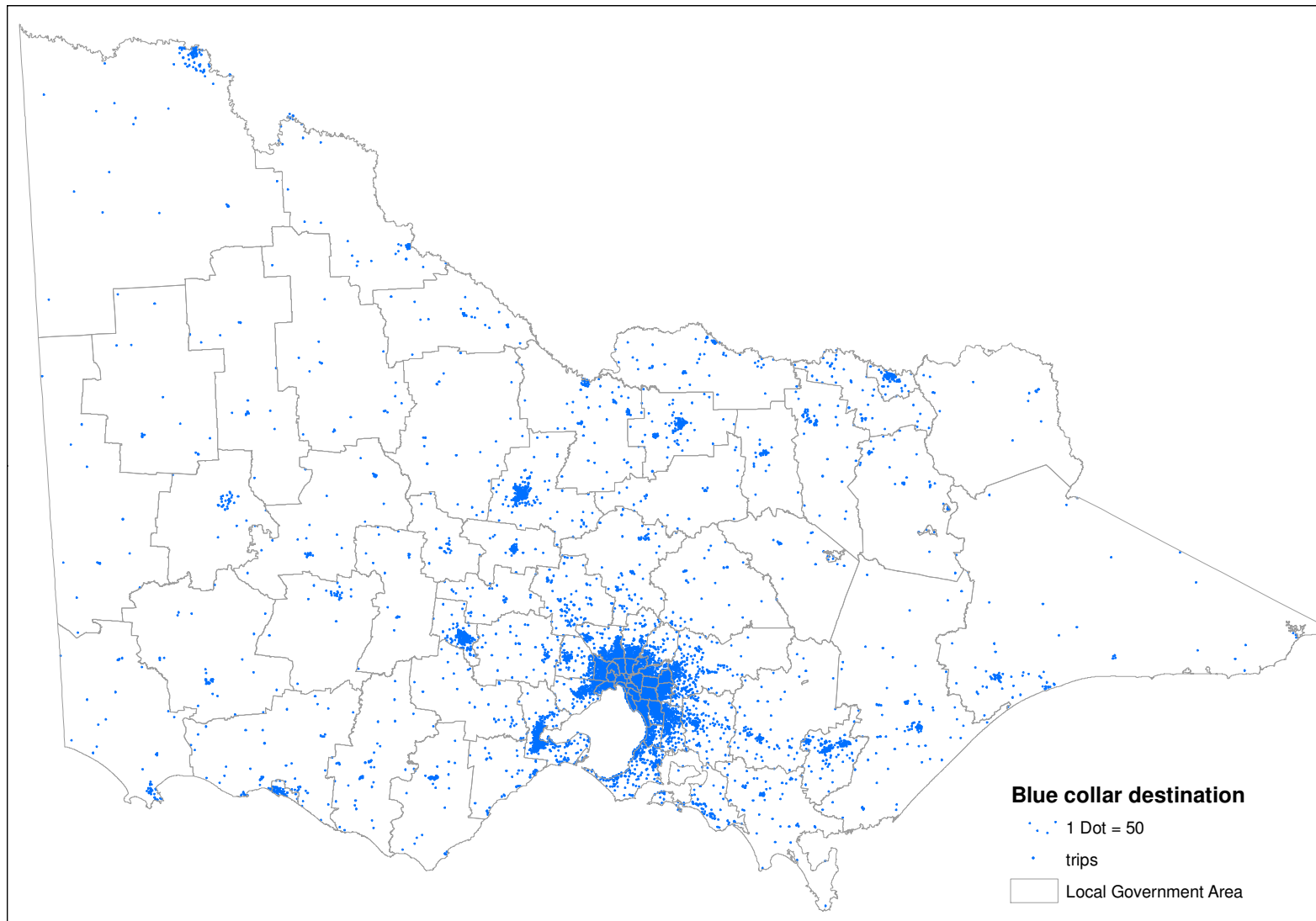


Figure 156: Destinations of journey to work for blue collar workers, Victoria 2011

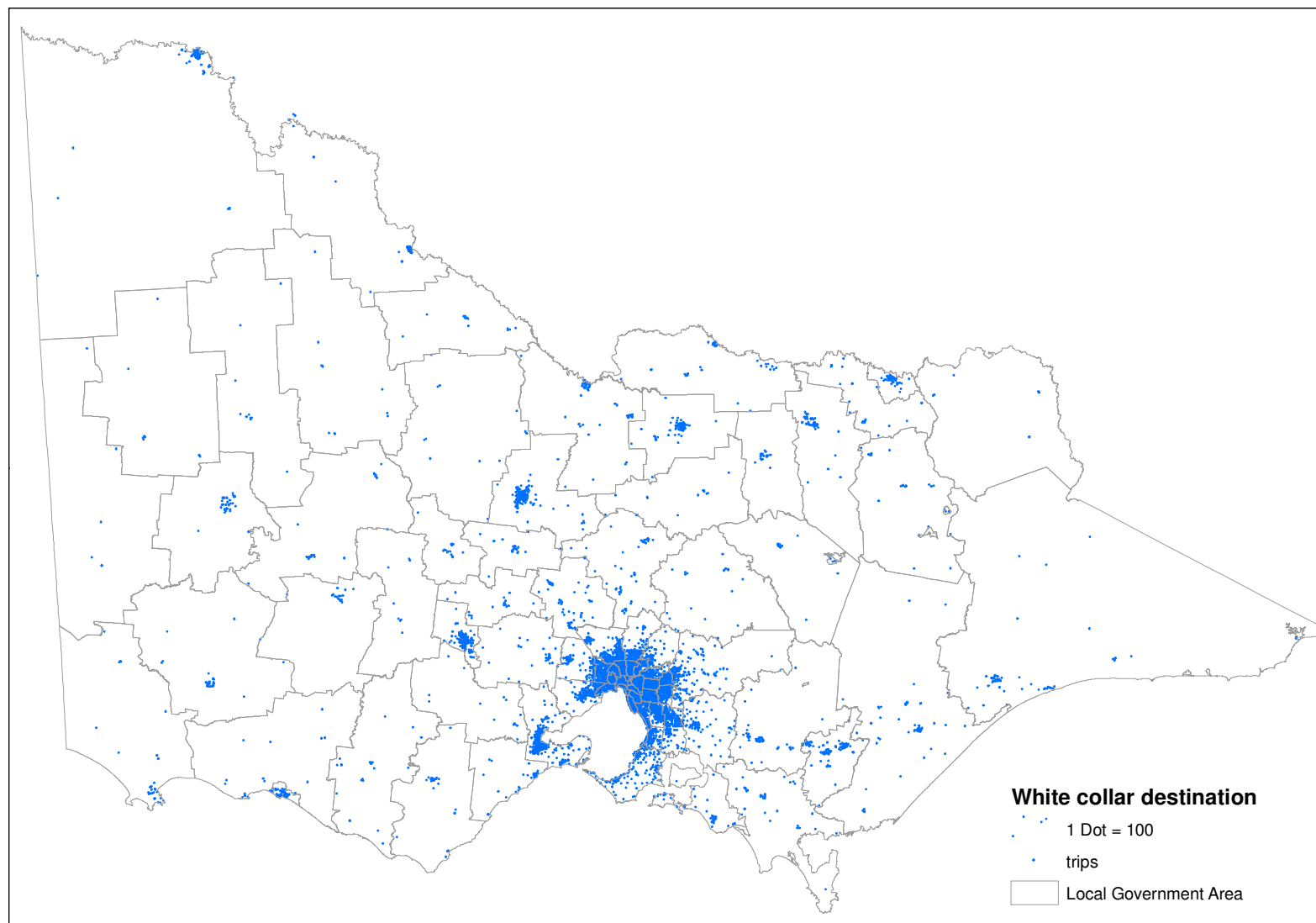


Figure 157: Destinations of journey to work for white collar workers, Victoria 2011

Figure 158 and Figure 159 show the destinations of journey to work in the MSD in 2006 for blue and white collar workers respectively². The work destinations of blue collar workers were similar to those in 2011, although they were less dispersed in 2006. As in 2011, many white collar workers went to work at or around the CBD. However, a significant number of white collar workers also went to work at the Cites of Monash and Greater Dandenong.

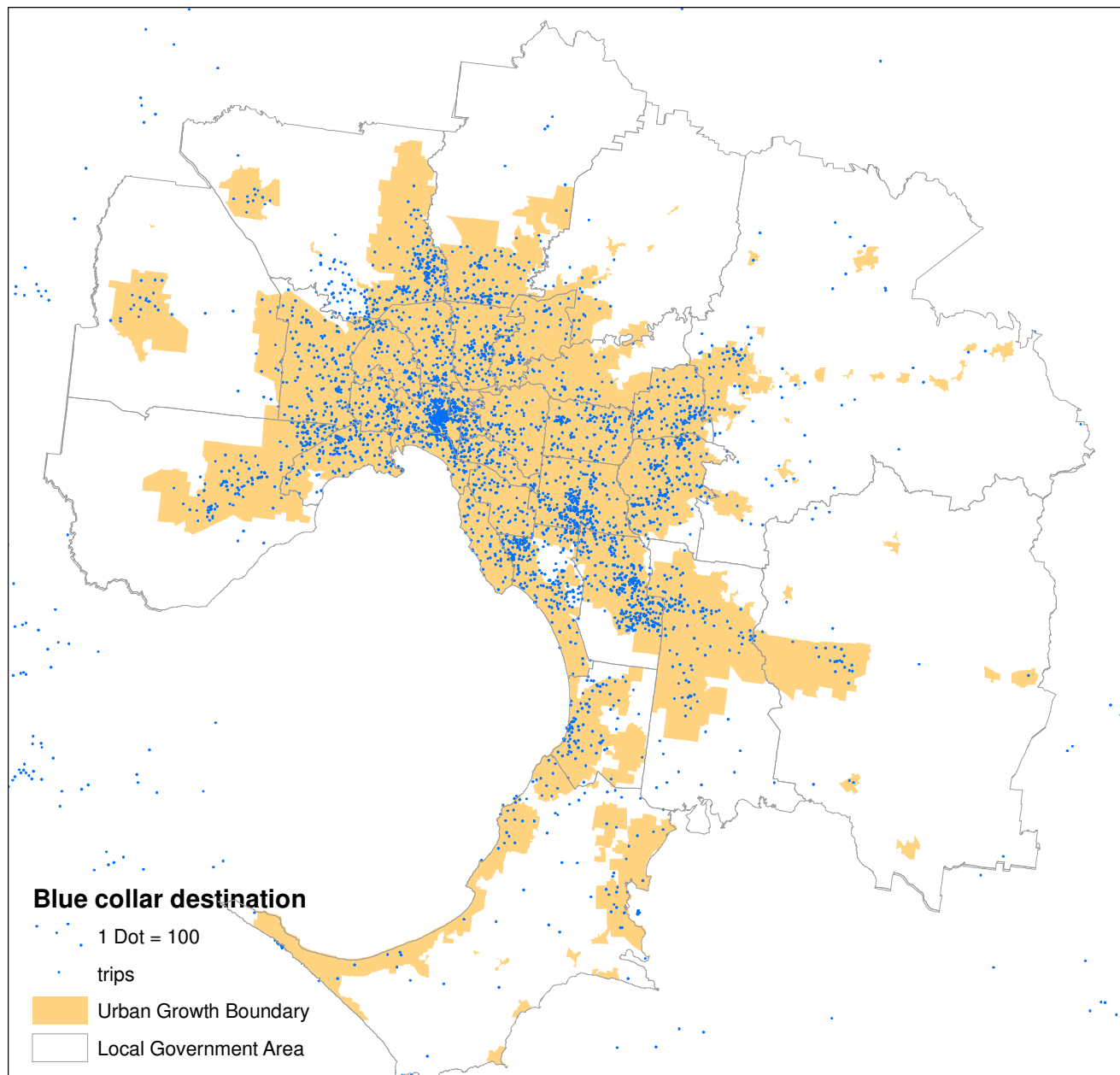


Figure 158: Destinations of journey to work for blue collar workers, Melbourne Statistical Division 2006

² Fine detail of destinations by occupation was not available for 2006. Only number of trips to each SLA was available for each occupation group. The fine detail of destinations within each SLA was estimated with the distribution of destinations of all work trips.

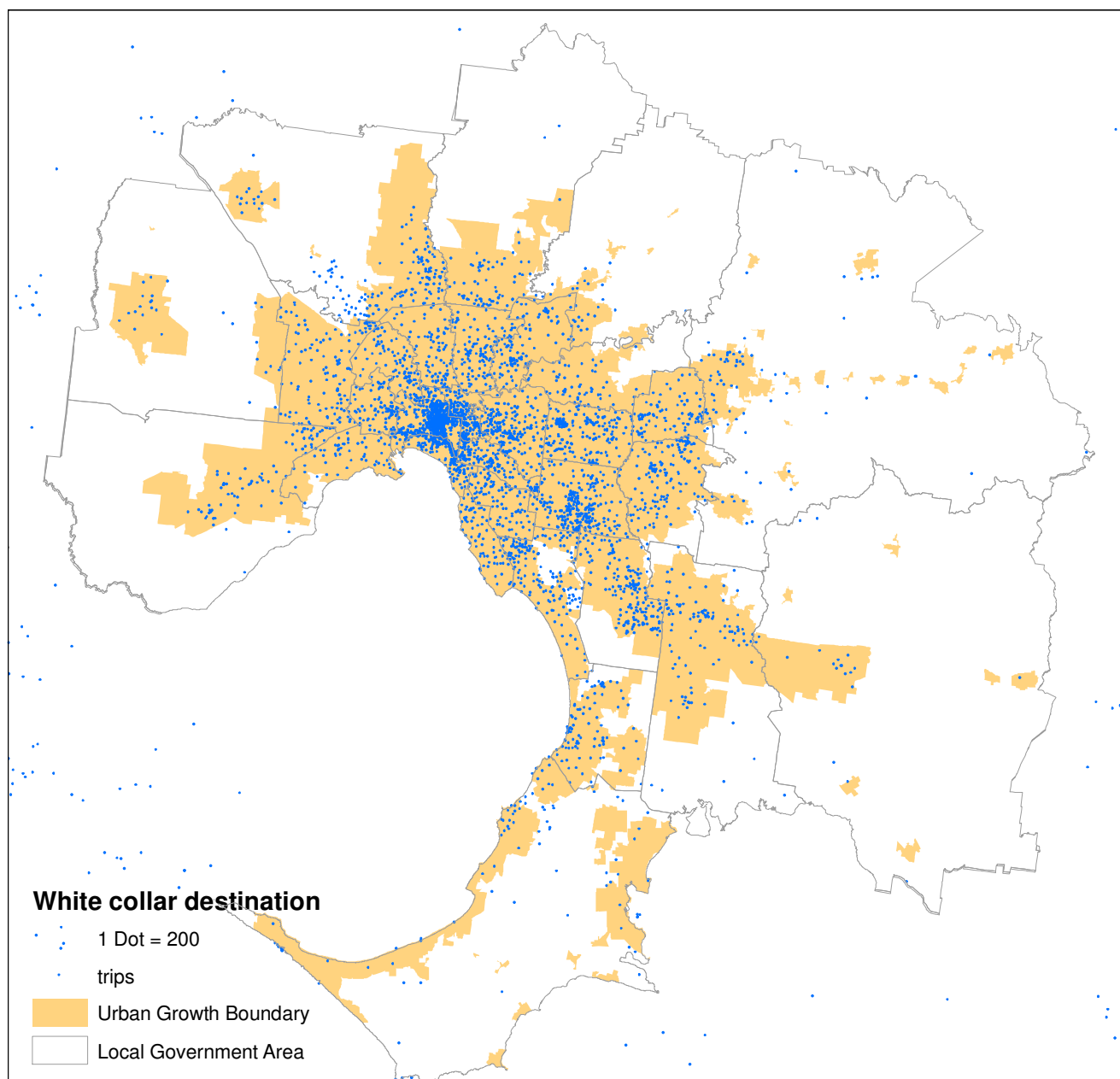


Figure 159: Destinations of journey to work for white collar workers, Melbourne Statistical Division 2006

7 Method of Travel by Employment Status

7.1 Mode Share

Figure 160 and Figure 161 show the total workers by employment status in 2011 for the MSD and rest of Victoria respectively. Generally, there were more part-time workers who worked at home or did not go to work on the Census day. In the MSD, about 94% of full-time workers travelled to work but only about 77% of part-time did so on the day. Part-time workers constituted about 32% of the work force but contributed only to about 28 % of the journeys to work.

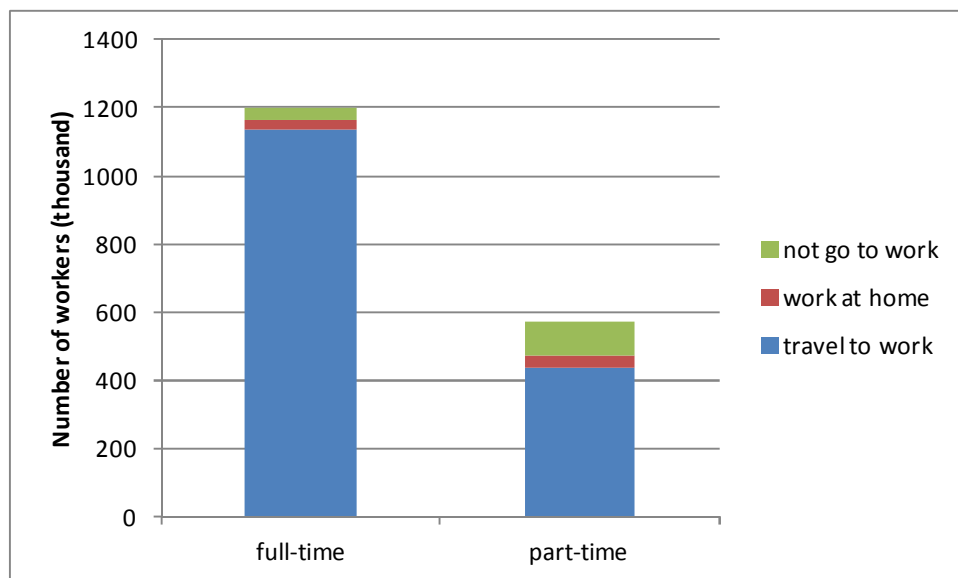


Figure 160: Total workers by employment status, Melbourne Statistical Division 2011

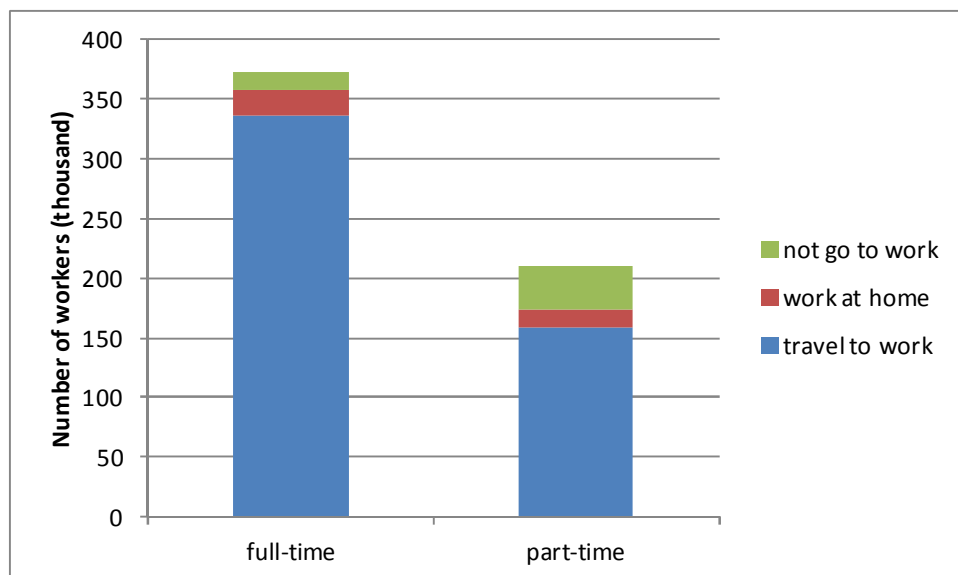


Figure 161: Total workers by employment status, rest of Victoria 2011

There were generally more people worked at home or did not go to work on the Census day for the rest of Victoria. About 90% of full-time workers travelled to work and about 75% of

part-time workers did so on the day. Part-time workers constituted about 36% of the work force but contributed to about 32% of the journeys to work.

Figure 162 and Figure 163 show the total workers by employment status in 2006 for the MSD and rest of Victoria respectively. Same as 2011, about 94% of full-time workers travelled to work on the 2006 Census day. However, at 73%, the proportion of part-time workers travelled to work was less than that in 2011. Part-time workers constituted about 31% of the work force but contributed only to about 26 % of the journeys to work in 2006.

For the rest of Victoria, there were generally more people worked at home or did not go to work than those in 2011. About 89% of full-time workers and 72% of part-time workers travelled to work. Part-time workers constituted about 34% of the work force but only contributed to 30% of the journeys to work.

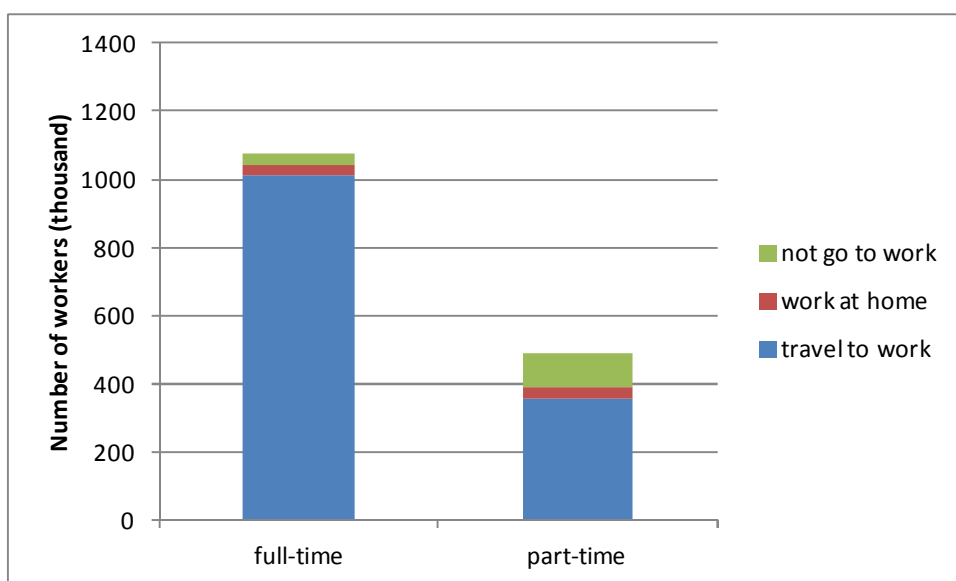


Figure 162: Total workers by employment status, Melbourne Statistical Division 2006

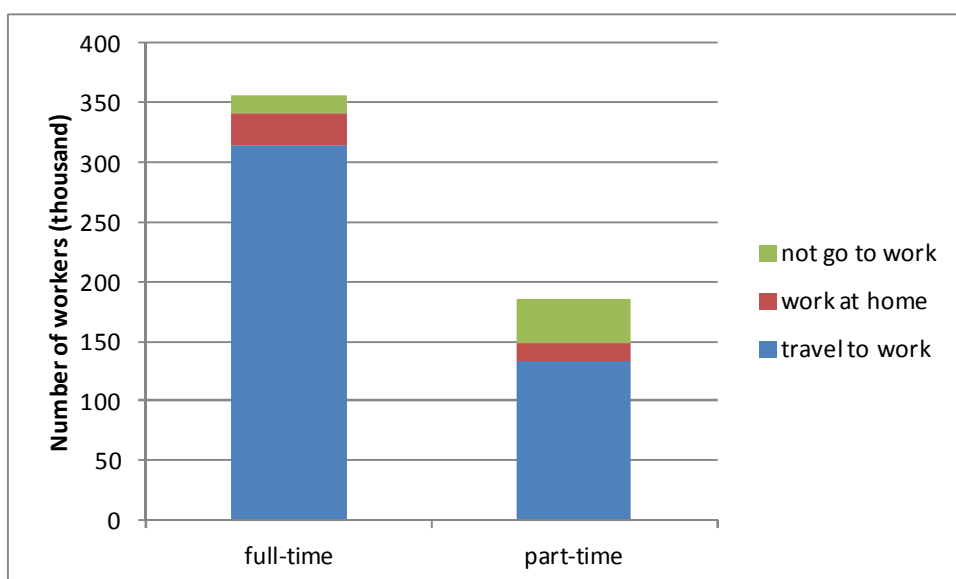


Figure 163: Total workers by employment status, rest of Victoria 2006

Figure 164 and Figure 165 show the mode share of journey to work by employment status in 2011 for the MSD and rest of Victoria respectively. There was little difference in mode choice between full-time and part-time workers, although there were generally more part-time workers walked to work in the MSD. The pattern was similar in 2006 (see Figure 166 and Figure 167).

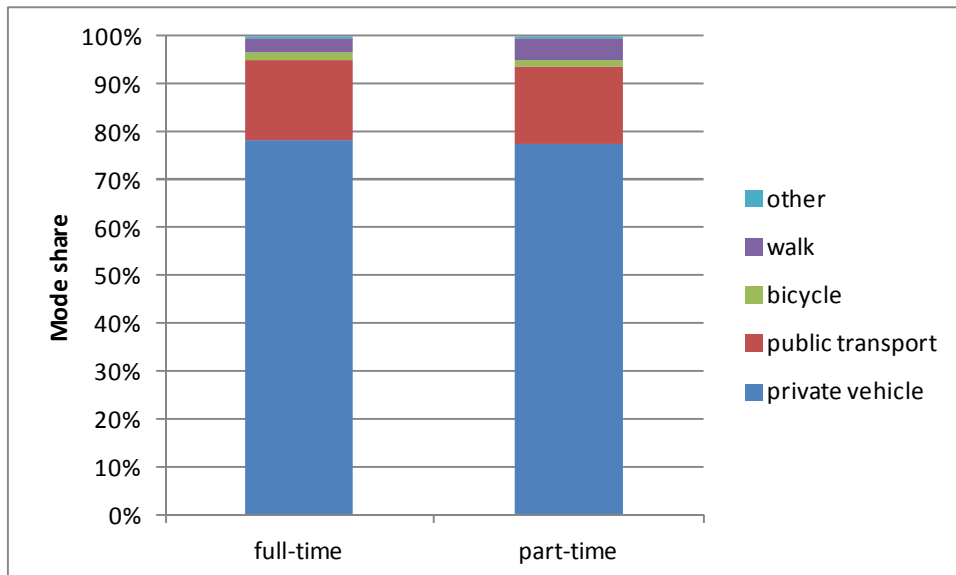


Figure 164: Mode share of journey to work by employment status, Melbourne Statistical Division 2011

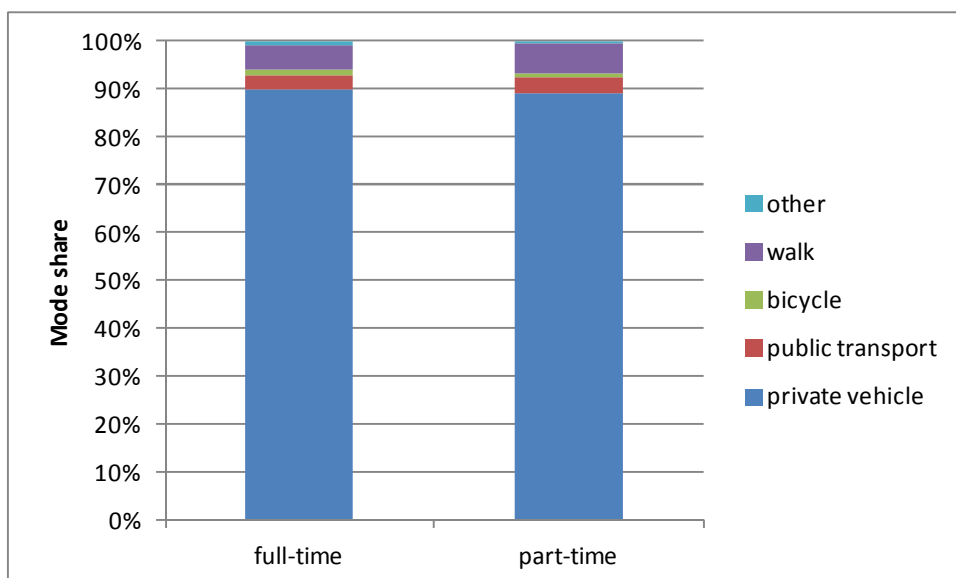


Figure 165: Mode share of journey to work by employment status, rest of Victoria 2011

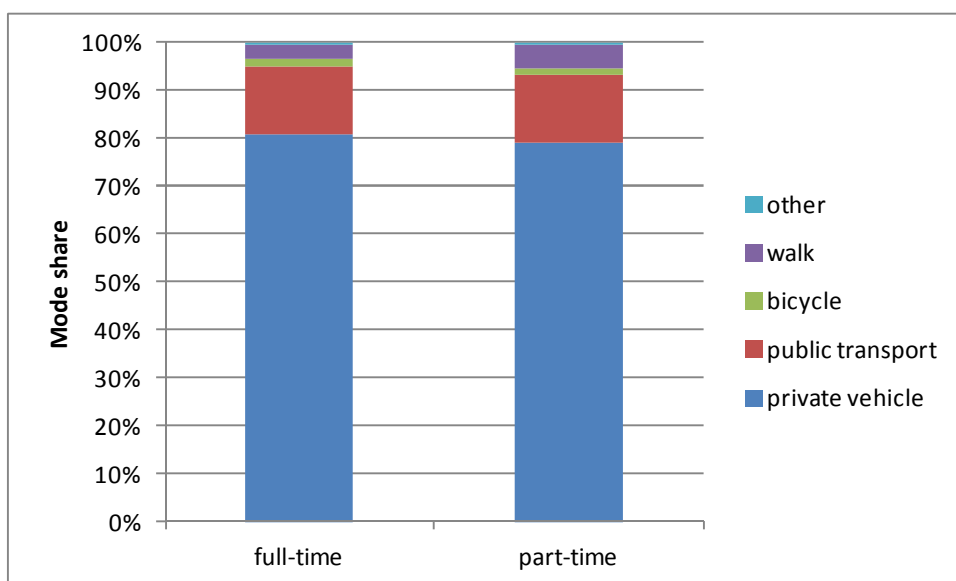


Figure 166: Mode share of journey to work by employment status, Melbourne Statistical Division 2006

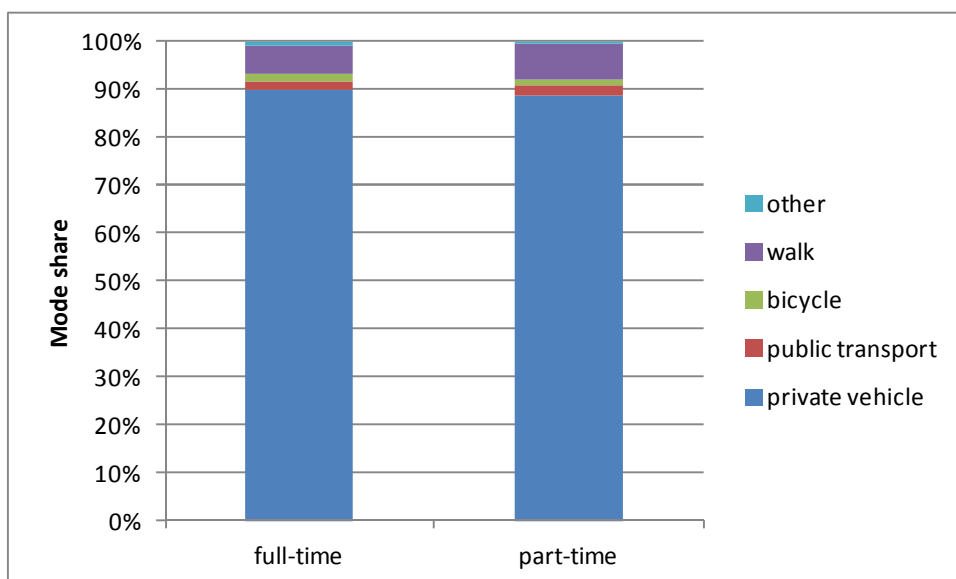


Figure 167: Mode share of journey to work by employment status, rest of Victoria 2006

7.2 Trip Origin

Figure 168 and Figure 169 show the origins of journey to work in the MSD in 2011 for full-time and part-time workers respectively. Although there were more full-time workers than part-time workers, there was little difference in the spatial distribution of their origins. This was also the case for the rest of Victoria (see Figure 168 and Figure 169).

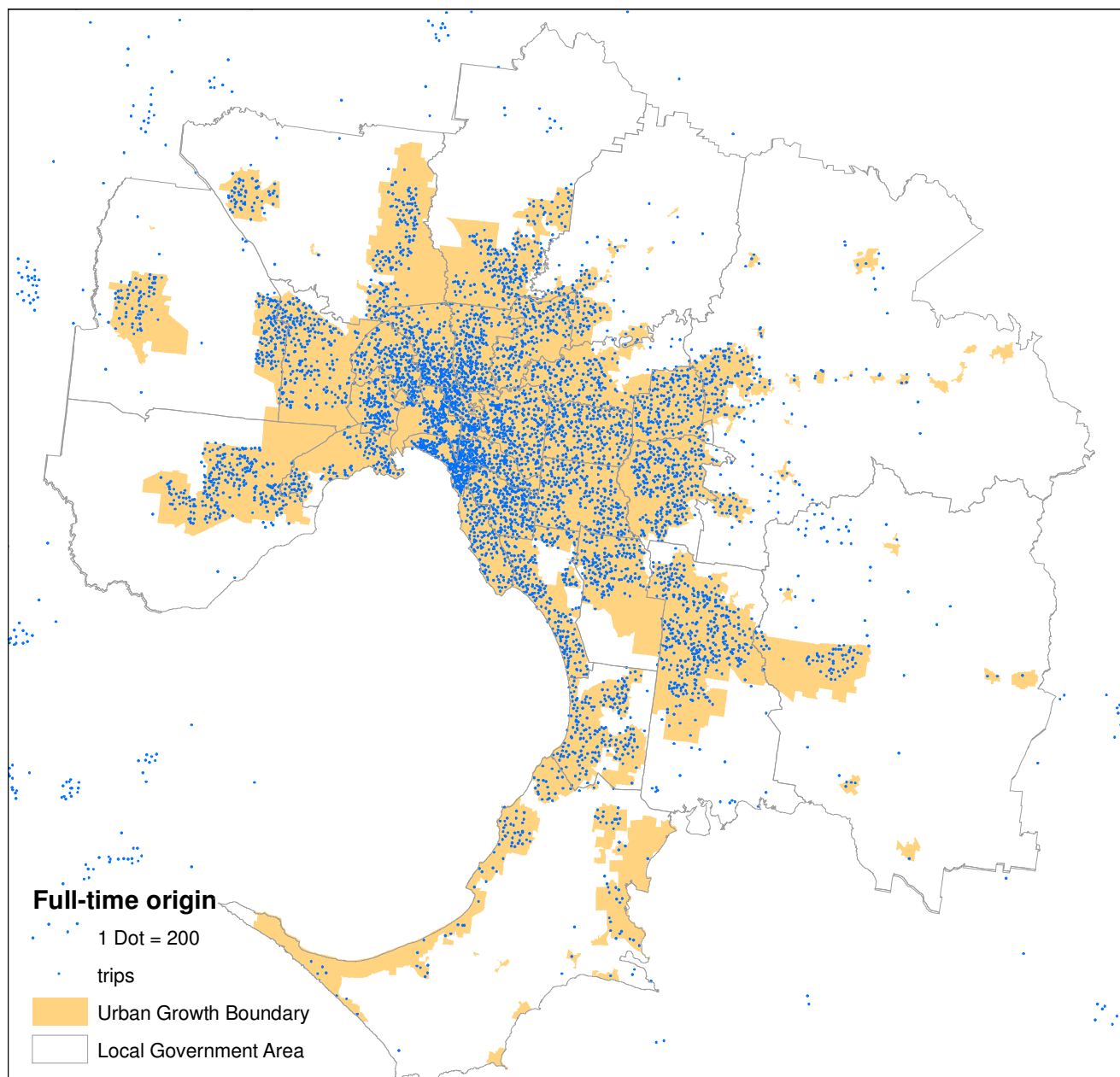


Figure 168: Origins of journey to work for full-time workers, Melbourne Statistical Division 2011

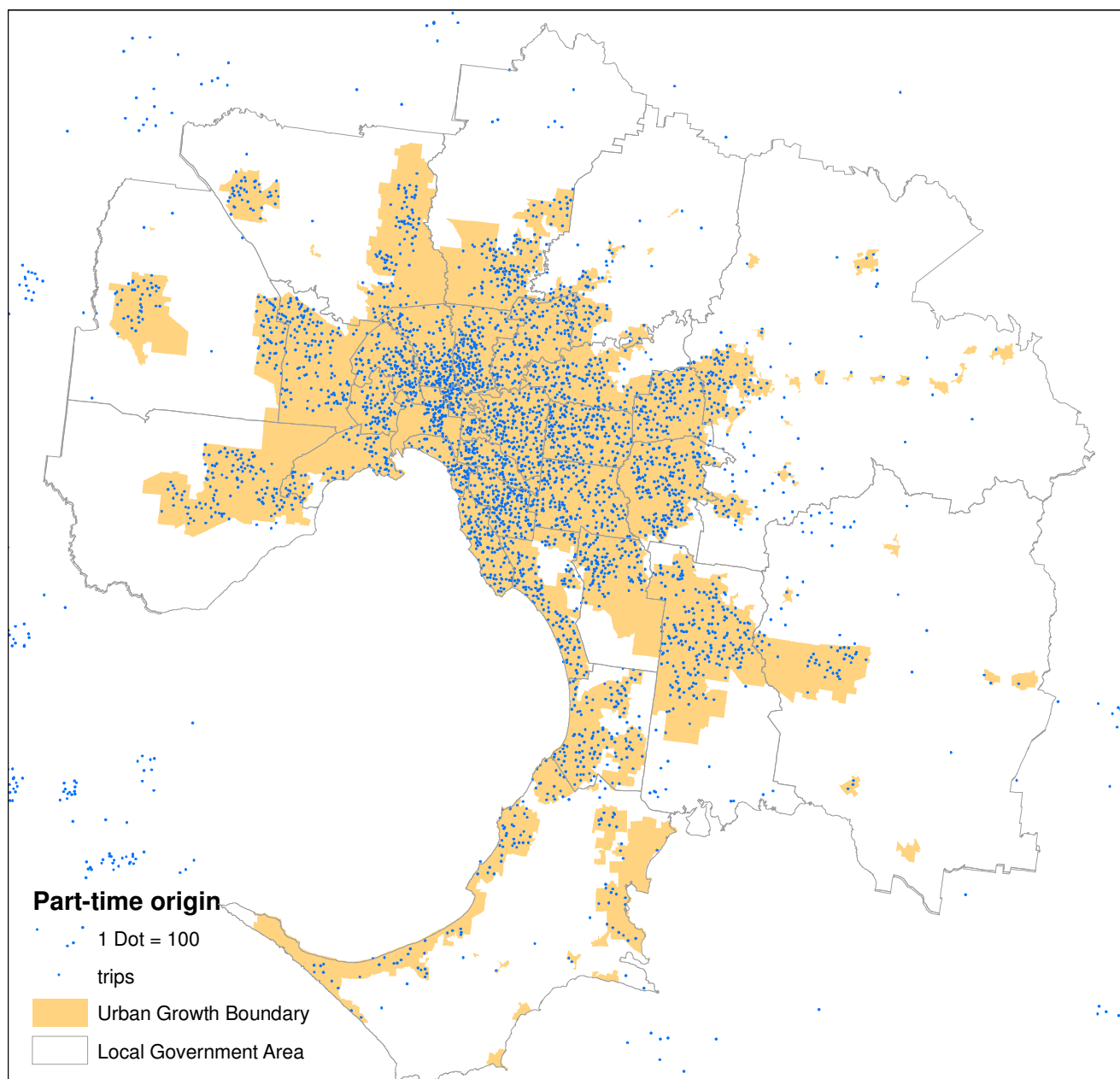


Figure 169: Origins of journey to work for part-time workers, Melbourne Statistical Division 2011

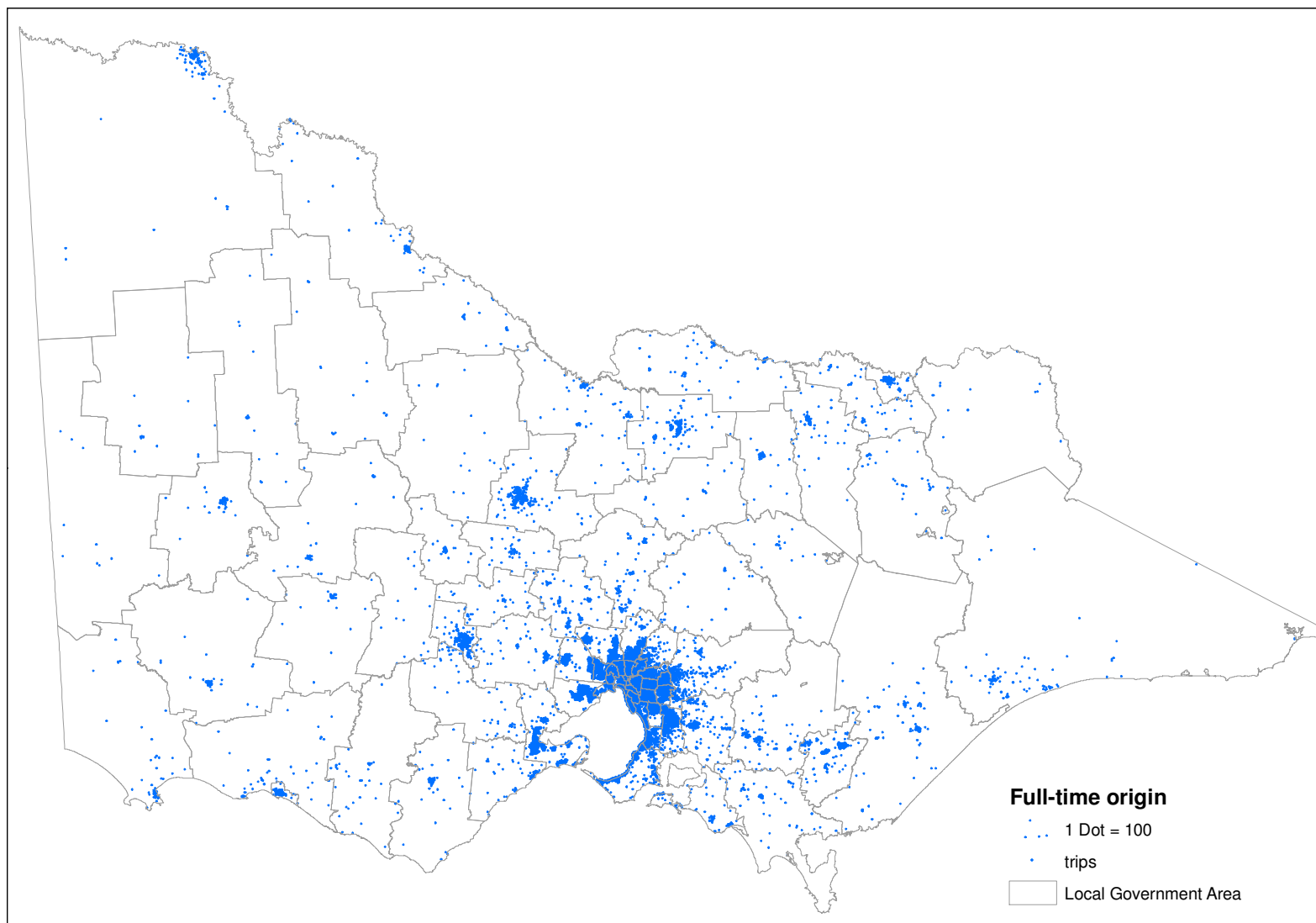


Figure 170: Origins of journey to work for full-time workers, Victoria 2011

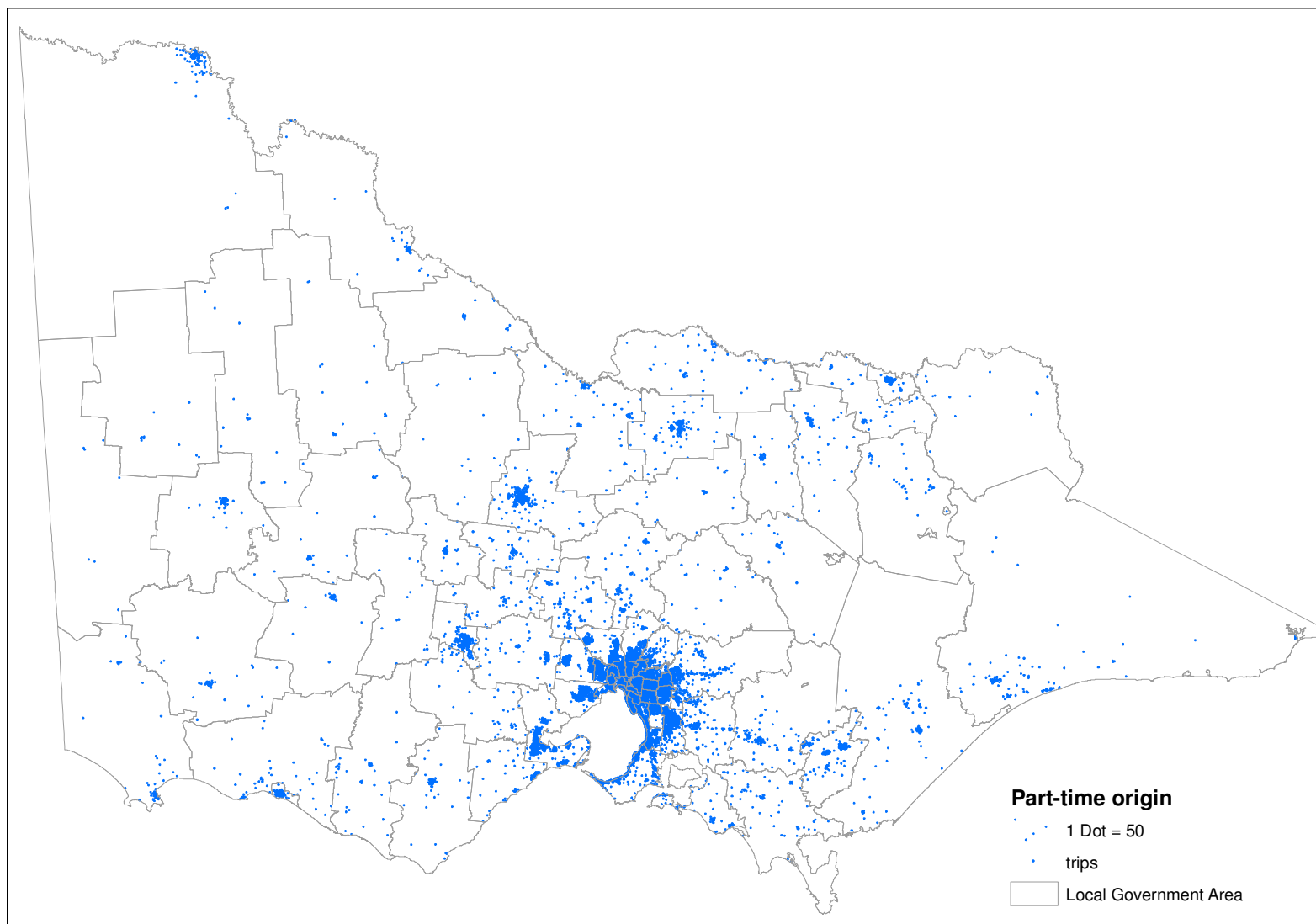


Figure 171: Origins of journey to work for part-time workers, Victoria 2011

Figure 172 and Figure 173 show the origins of journey to work in the MSD in 2006 for full-time and part-time workers respectively. The spatial distribution of the origins was similar for the full-time and part-time workers for most part of the MSD. However, there were significantly less part-time workers came from the City of Melbourne and the surrounding areas.

For the rest of Victoria, as in 2011, there was little difference in the spatial distribution of the origins of full-time and part-time workers (see Figure 174 and Figure 175).

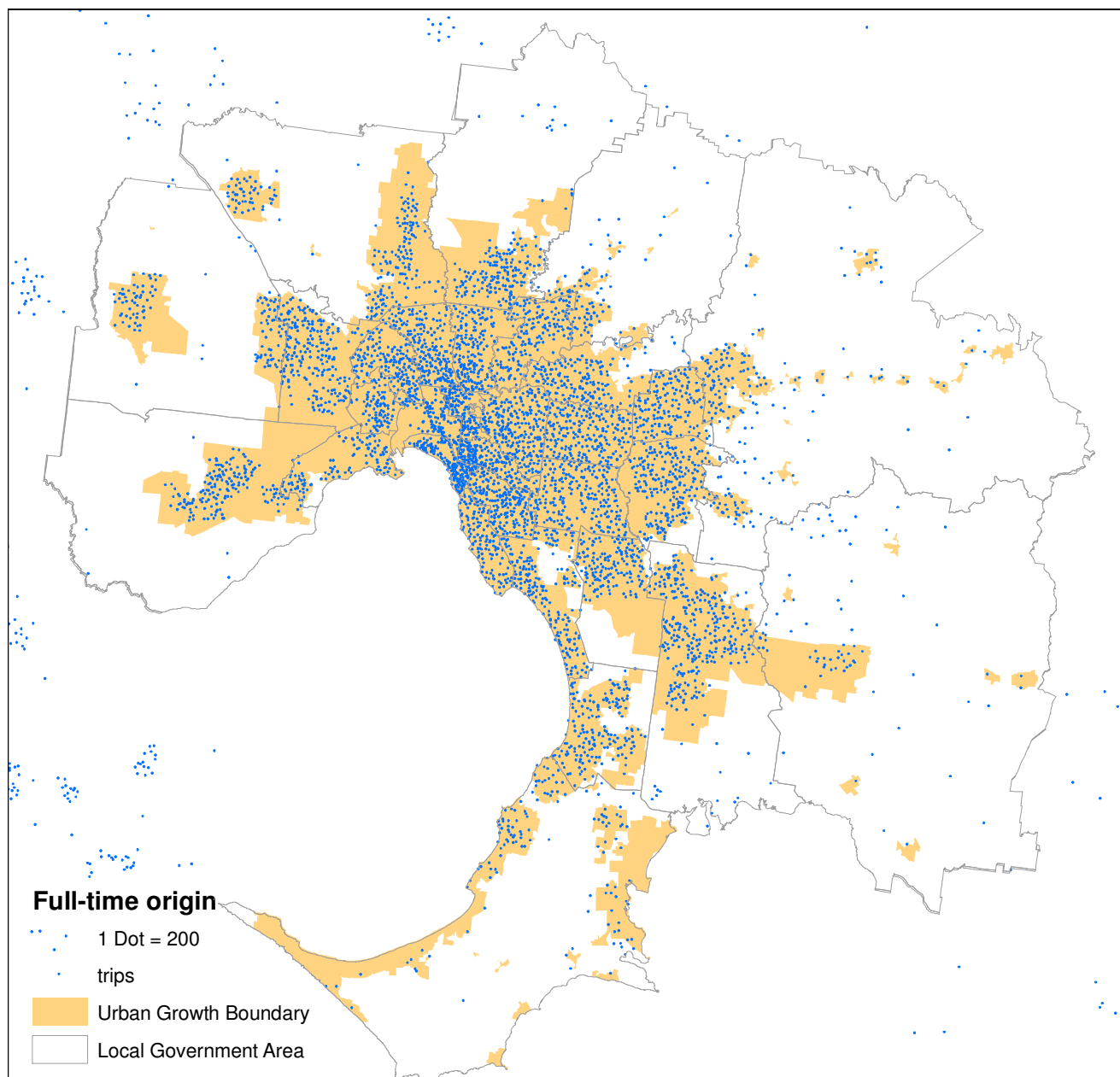


Figure 172: Origins of journey to work for full-time workers, Melbourne Statistical Division 2006

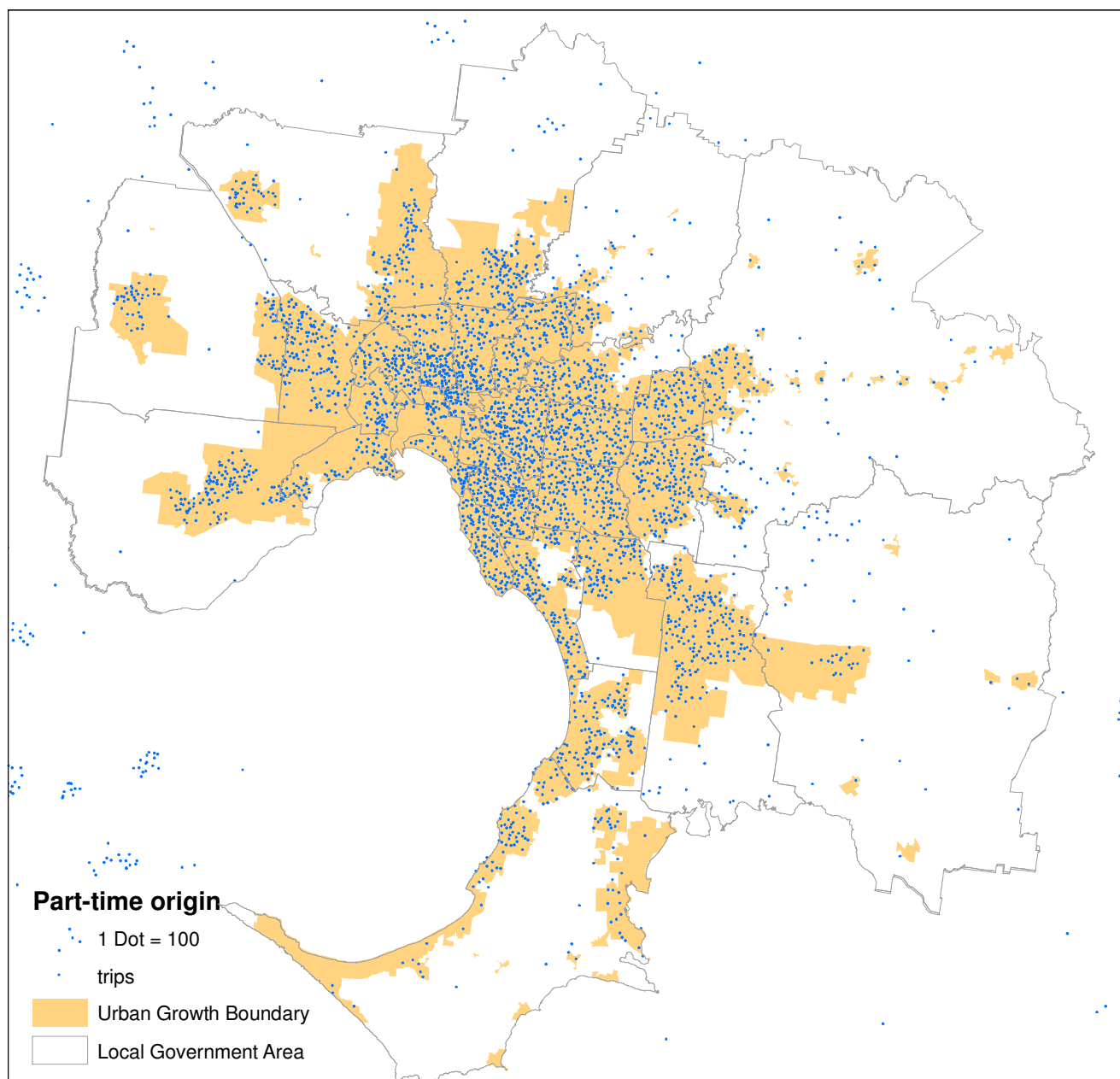


Figure 173: Origins of journey to work for part-time workers, Melbourne Statistical Division 2006

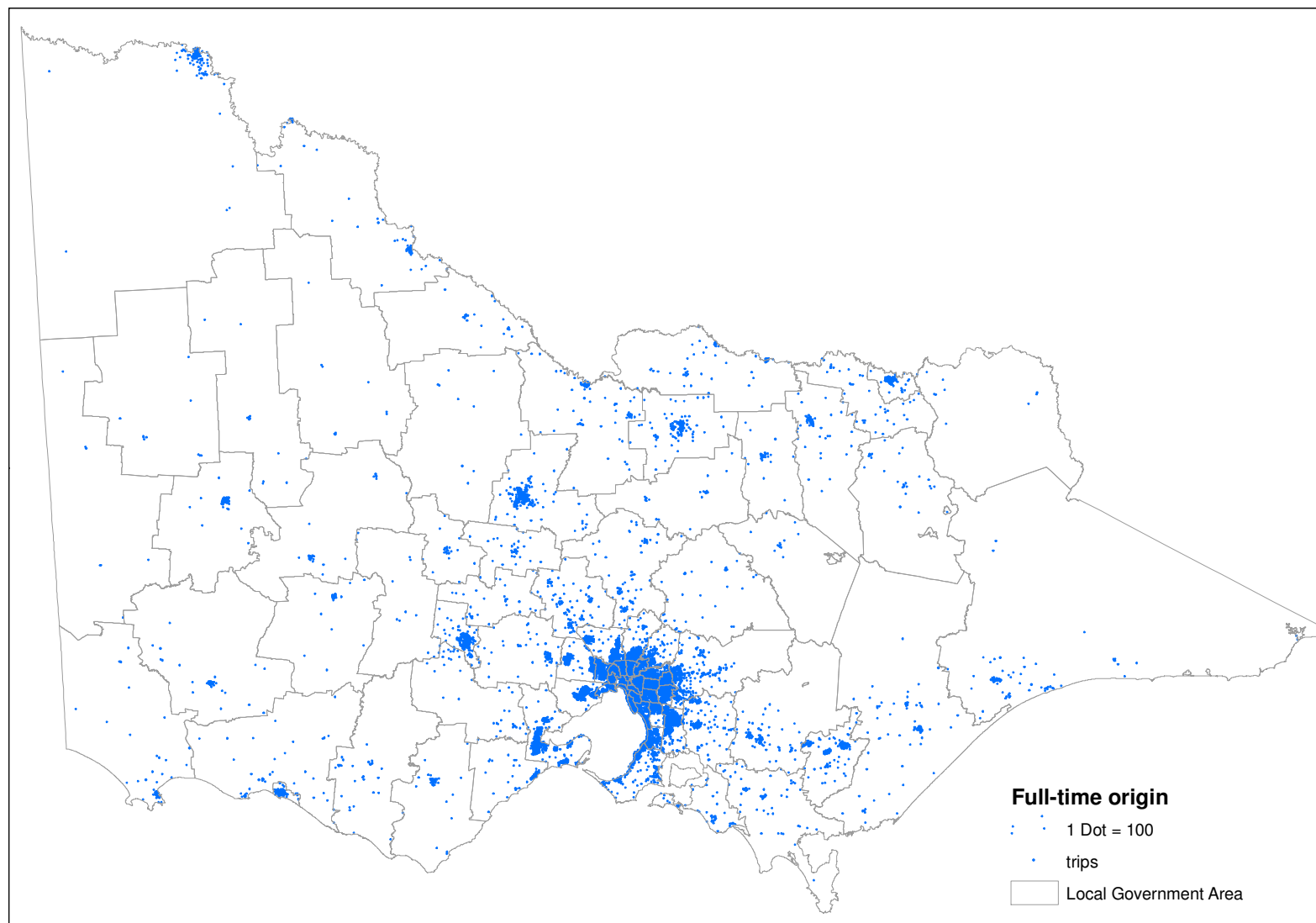


Figure 174: Origins of journey to work for full-time workers, Victoria 2006

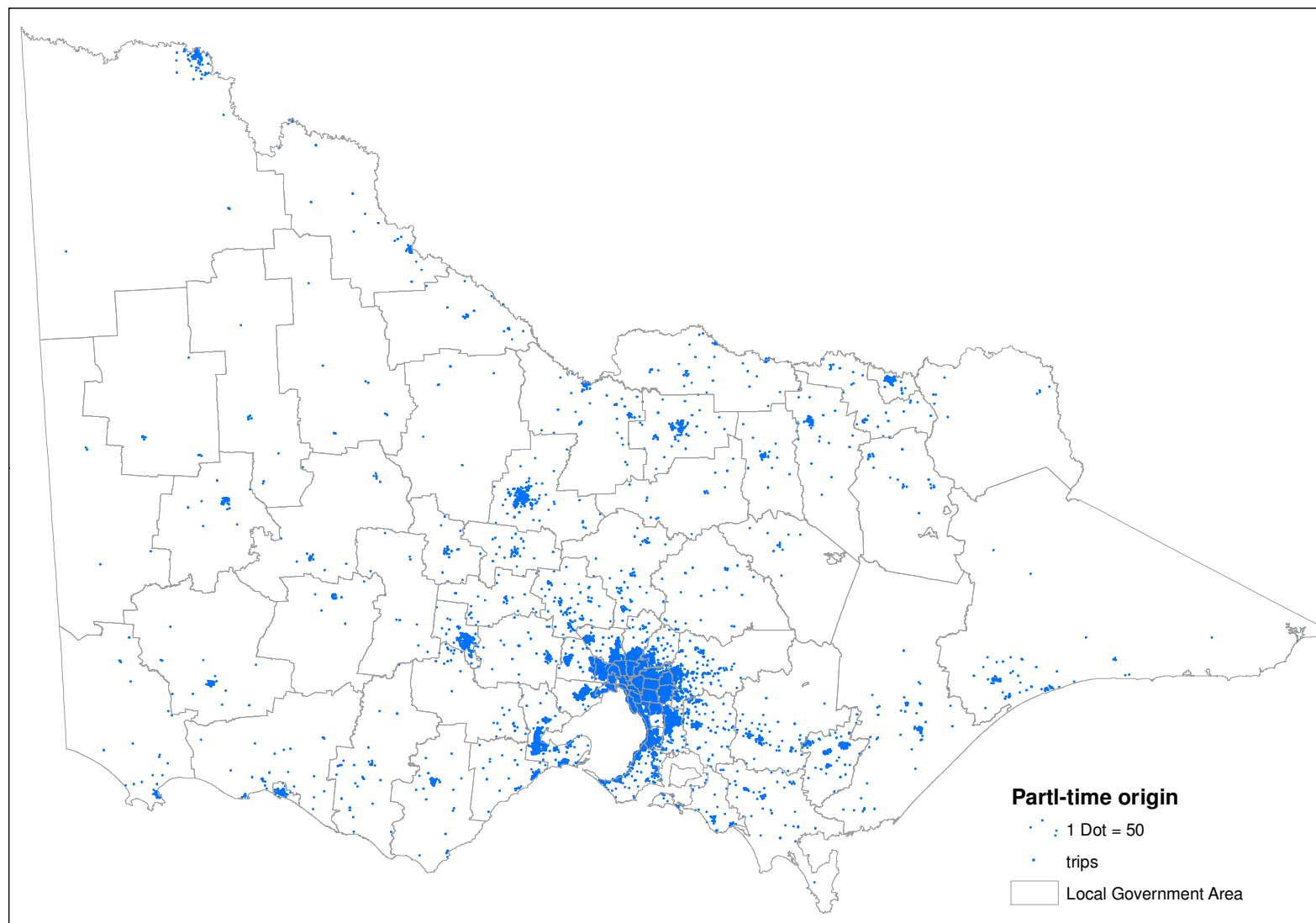


Figure 175: Origins of journey to work for part-time workers, Victoria 2006

7.3 Trip Destination

Figure 176 and Figure 177 show the destinations of journey to work in the MSD in 2011 for full-time and part-time workers respectively. As for trip origins, there was little difference in the spatial distribution of destinations of full-time and part-time workers, although there were more full-time workers than part-time workers. This was also the case for the rest of Victoria (see Figure 178 and Figure 179).

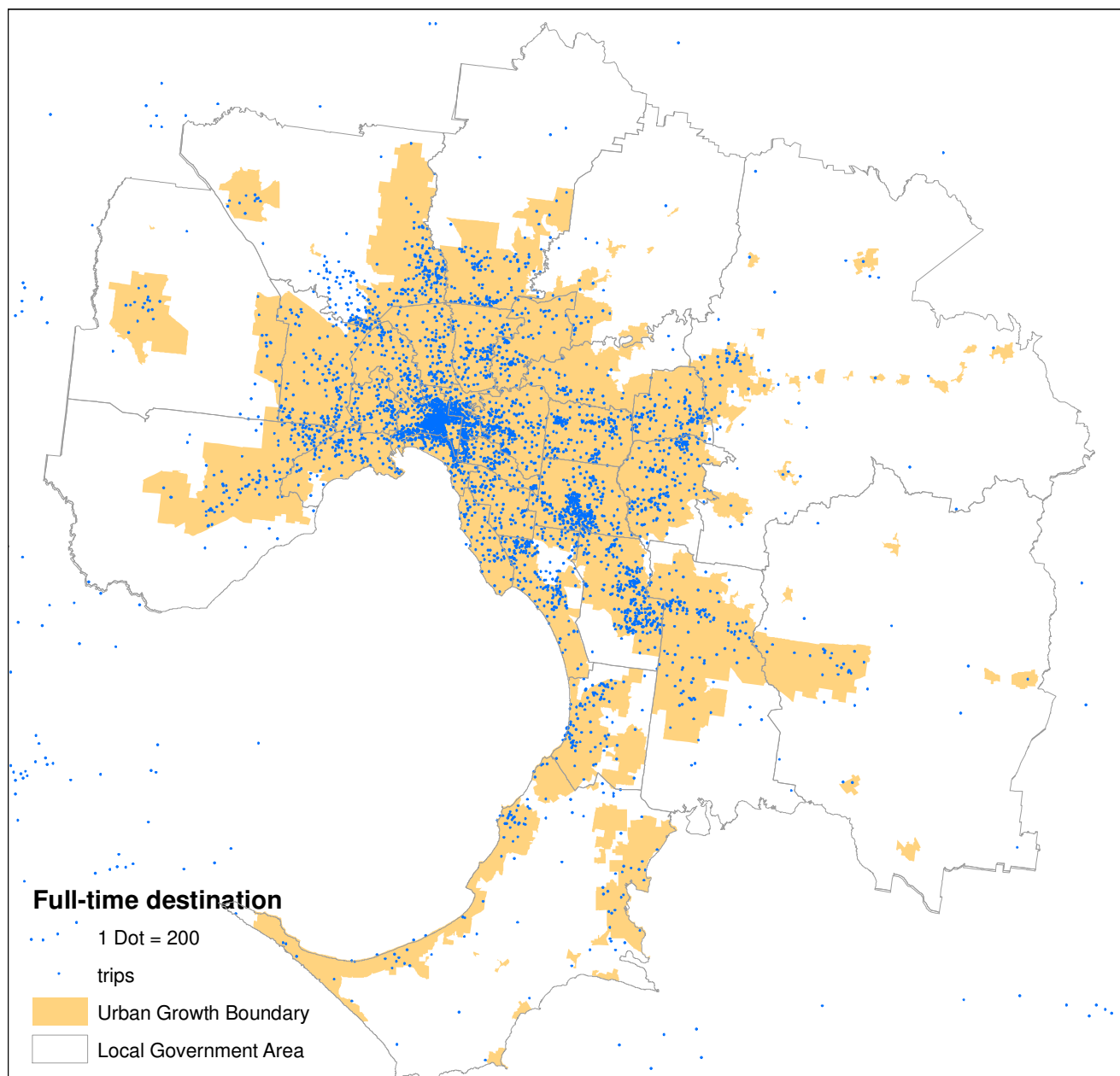


Figure 176: Destinations of journey to work for full-time workers, Melbourne Statistical Division 2011

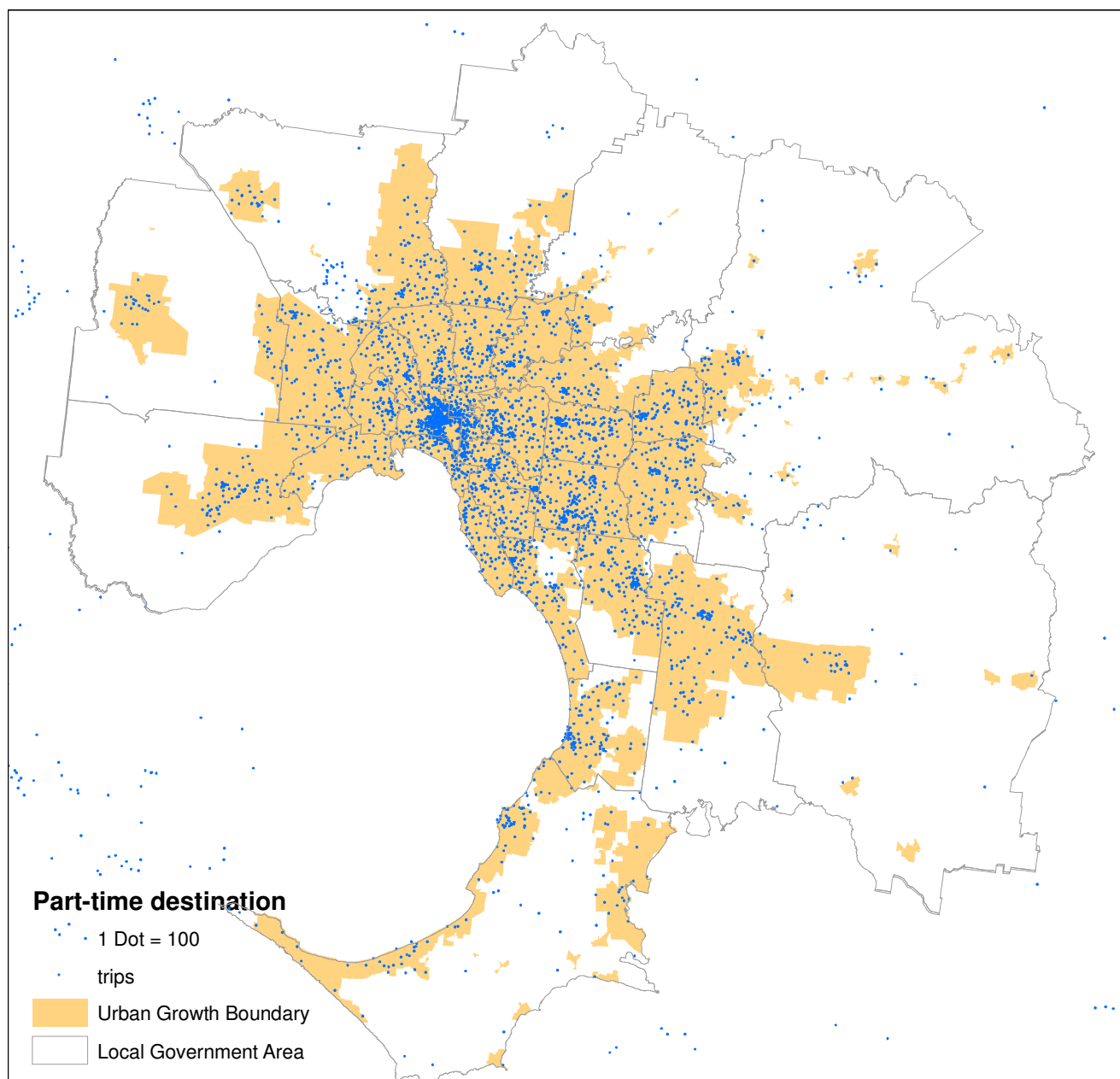


Figure 177: Destinations of journey to work for part-time workers, Melbourne Statistical Division 2011

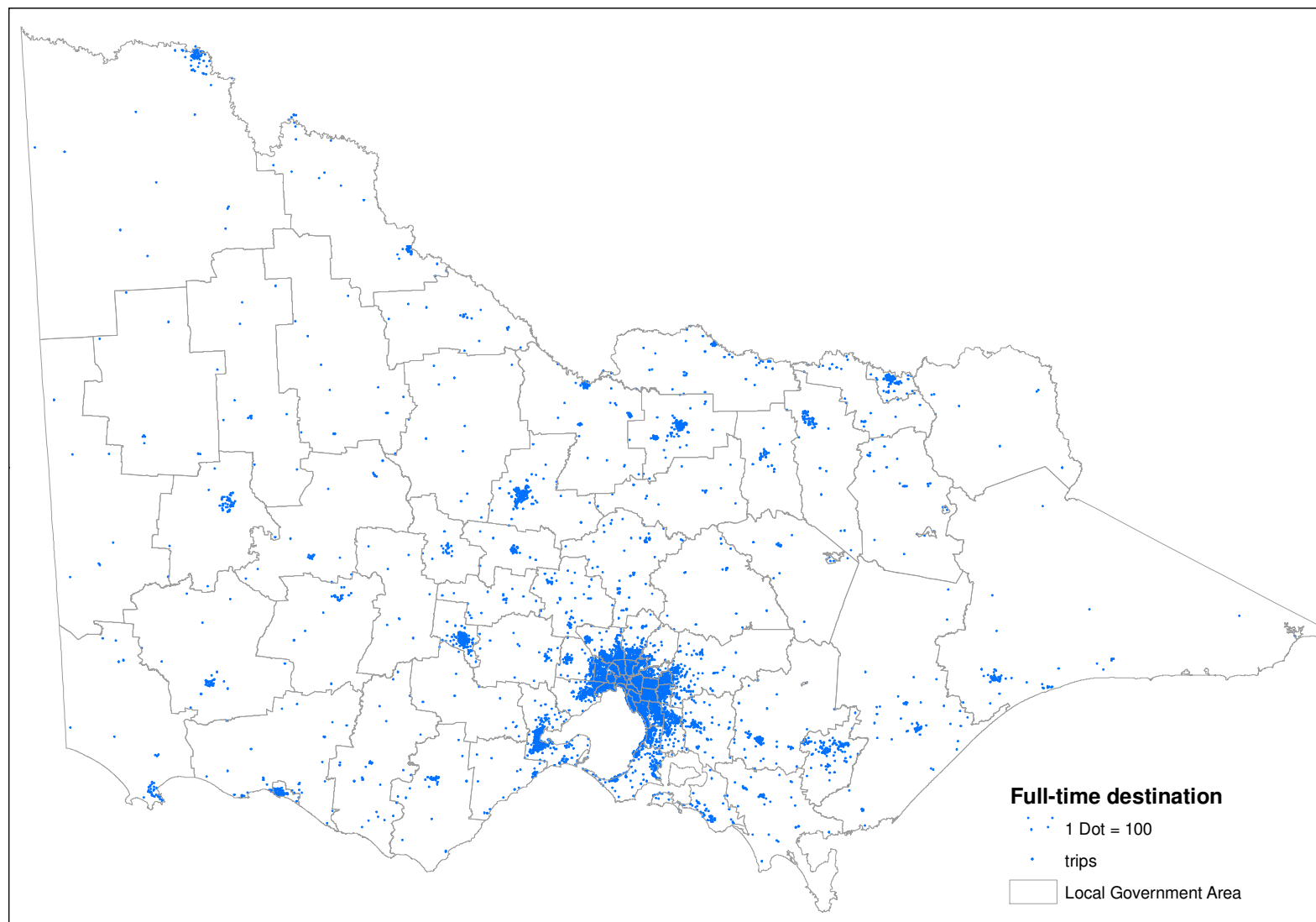


Figure 178: Destinations of journey to work for full-time workers, Victoria 2011

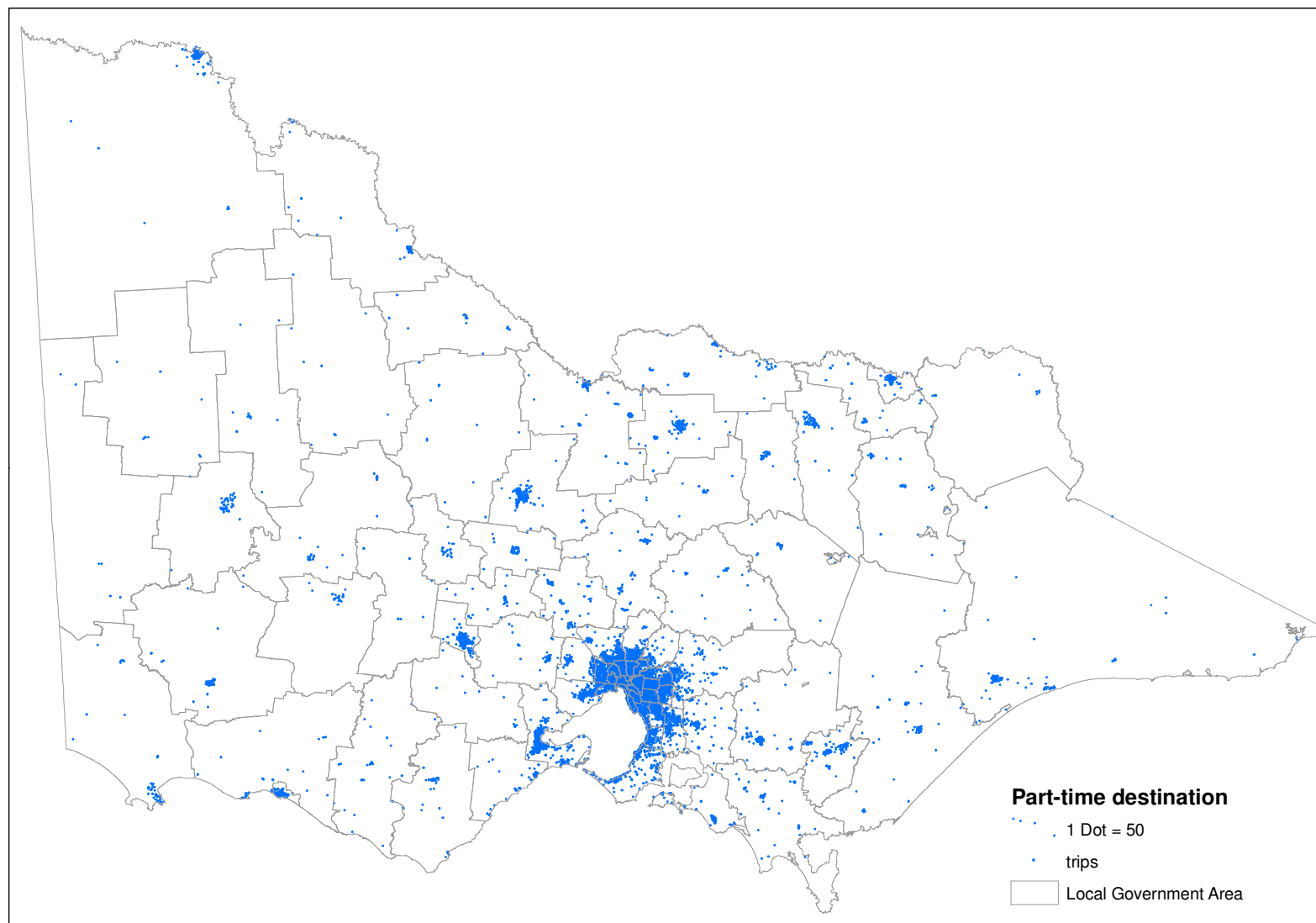


Figure 179: Destinations of journey to work for part-time workers, Victoria 2011

Figure 180 and Figure 181 show the destinations of journey to work in the MSD in 2006 for full-time and part-time workers respectively³. As in 2011, there was little difference in where full-time and part-time workers worked.

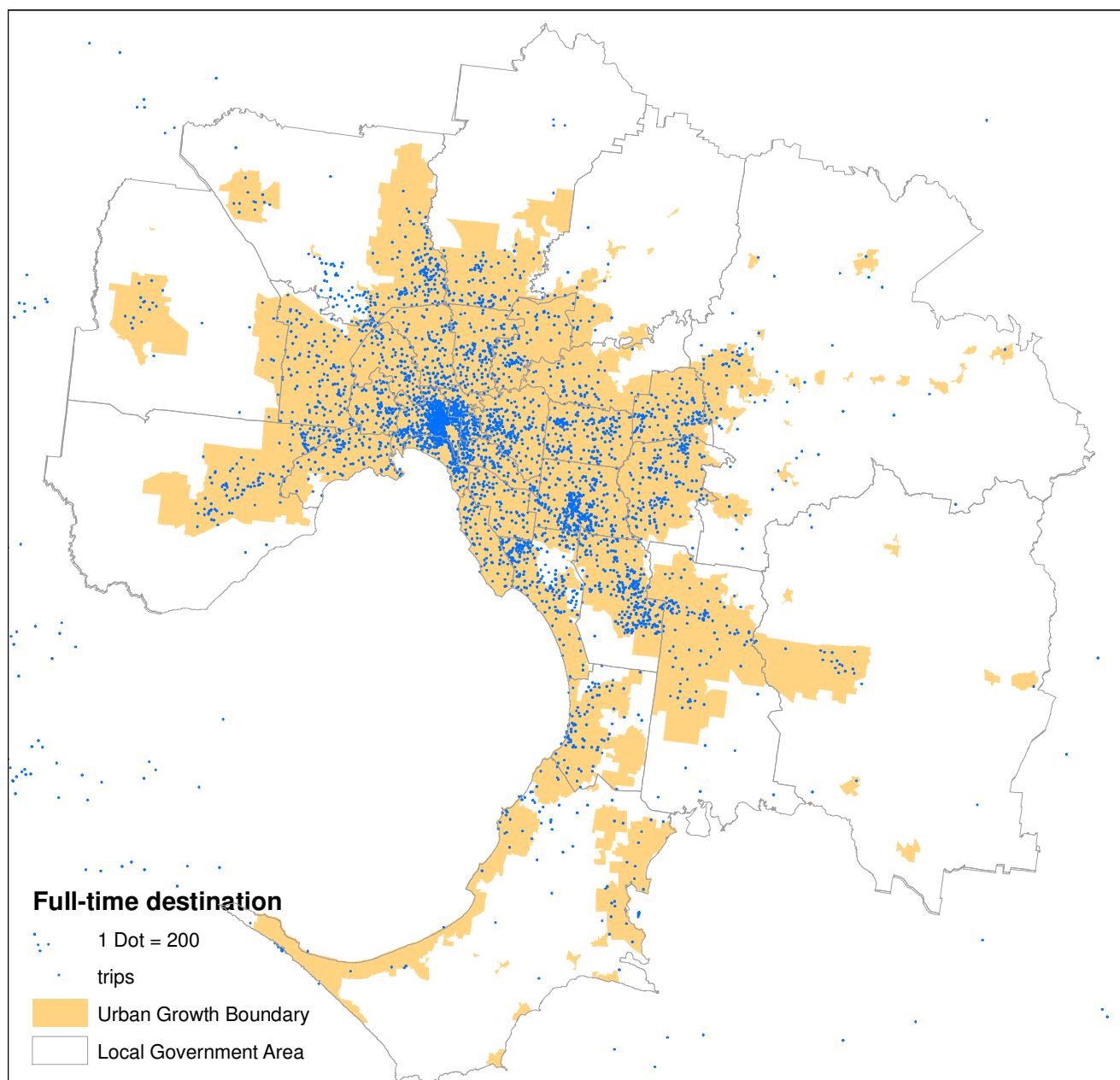


Figure 180: Destinations of journey to work for full-time workers, Melbourne Statistical Division 2006

³ Fine detail of destinations by employment status was not available for 2006. Only number of trips by employment status to each SLA was available. The fine detail of destinations within each SLA was estimated with the distribution of destinations of all work trips.

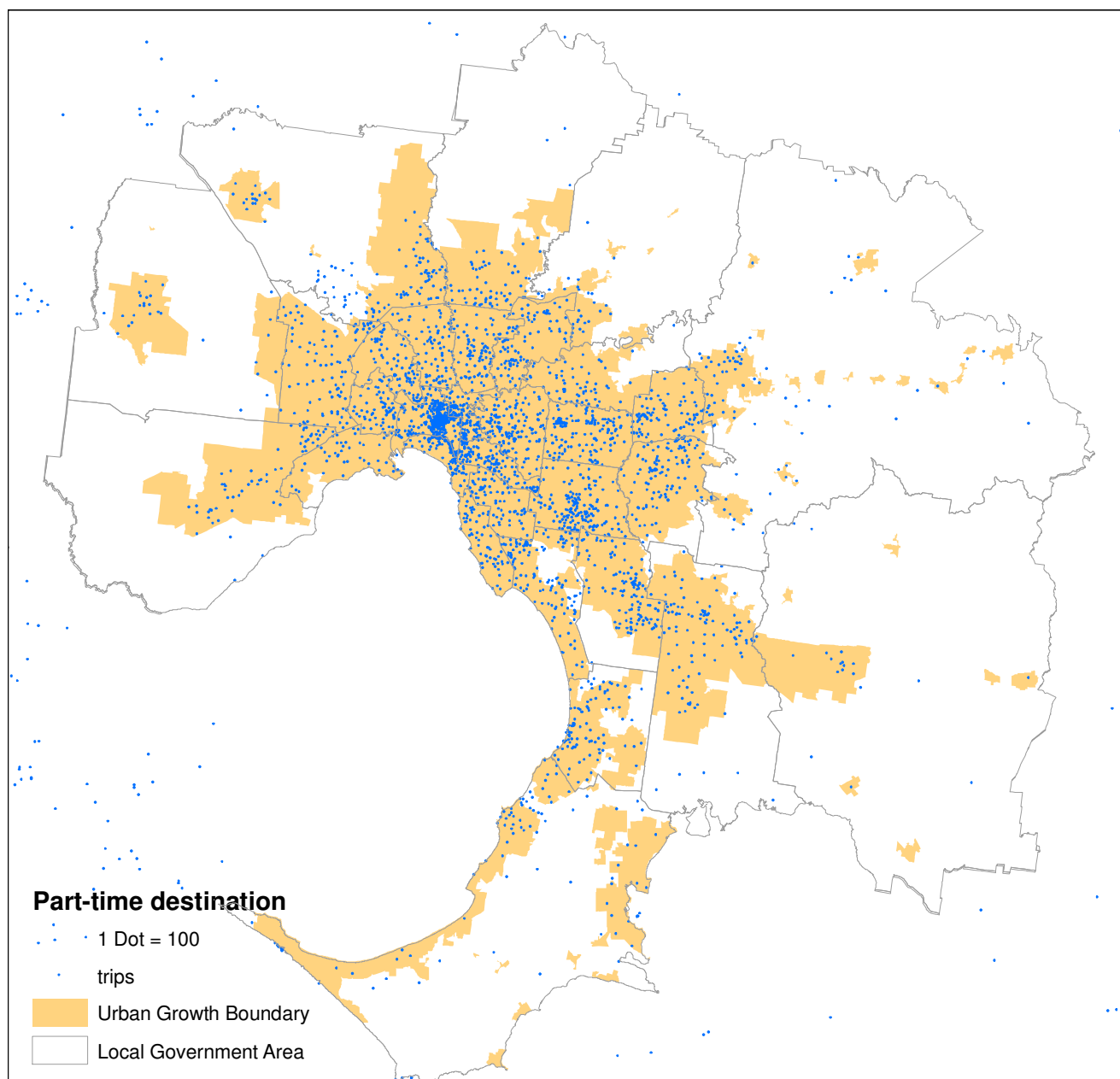


Figure 181: Destinations of journey to work for part-time workers, Melbourne Statistical Division 2006

8 Method of Travel by Age

8.1 Mode Share

Figure 182 and Figure 183 show the distribution of work trips by age in 2011 for the MSD and rest of Victoria respectively. Although workers of age 25-29 undertook the most work trips in the MSD, the work trips were quite evenly distributed for workers of age between 30 and 49.

In contrast, for the rest of Victoria, most work trips were undertaken by older workers of age between 40 and 54.

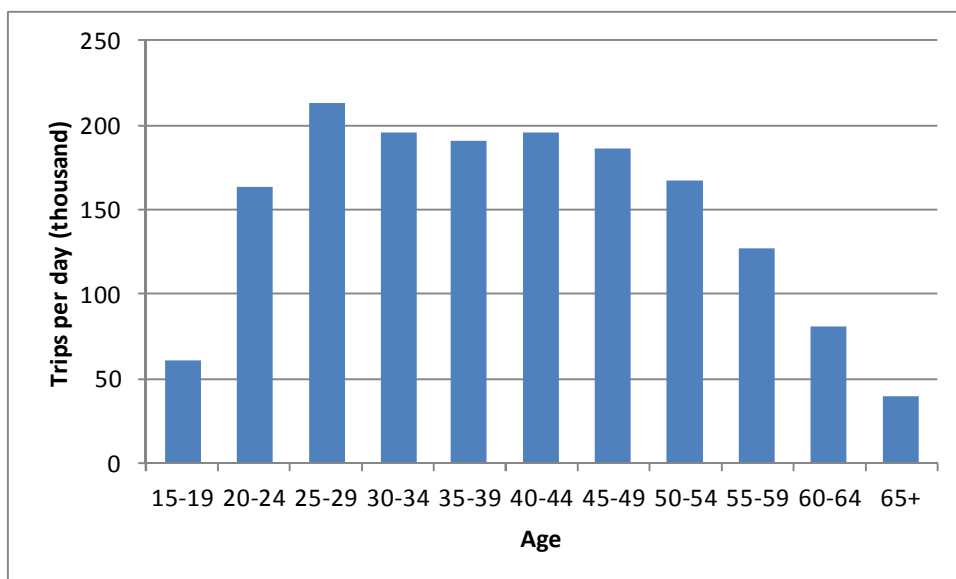


Figure 182: Total work trips by age, Melbourne Statistical Division 2011

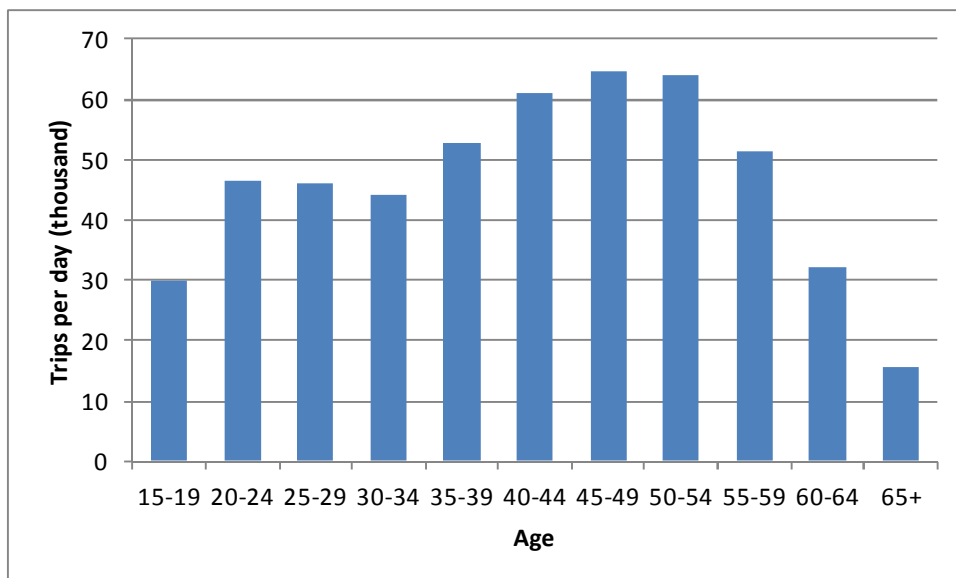


Figure 183: Total work trips by age, rest of Victoria 2011

Figure 184 and Figure 185 show the distribution of work trips by age in 2006 for the MSD and rest of Victoria respectively. Compared with 2011, the work trips in the MSD were more evenly distributed for workers of age between 25 and 49.

For the rest of Victoria, similar to 2011, most work trips were undertaken by older workers of age between 40 and 54. However, there were significantly less trips undertaken by worker of age 55 or over, showing the ageing of population between 2006 and 2011 for the rest of Victoria.

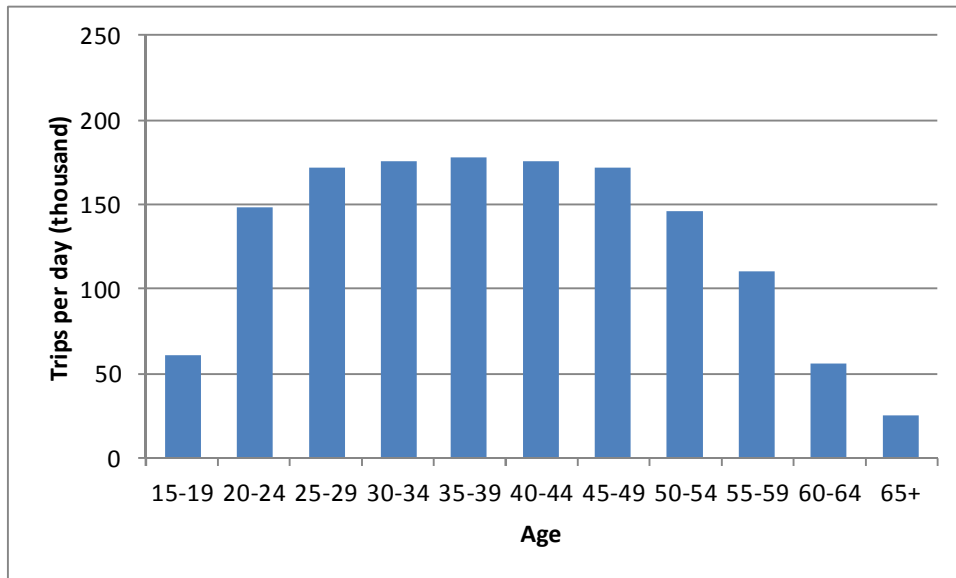


Figure 184: Total work trips by age, Melbourne Statistical Division 2006

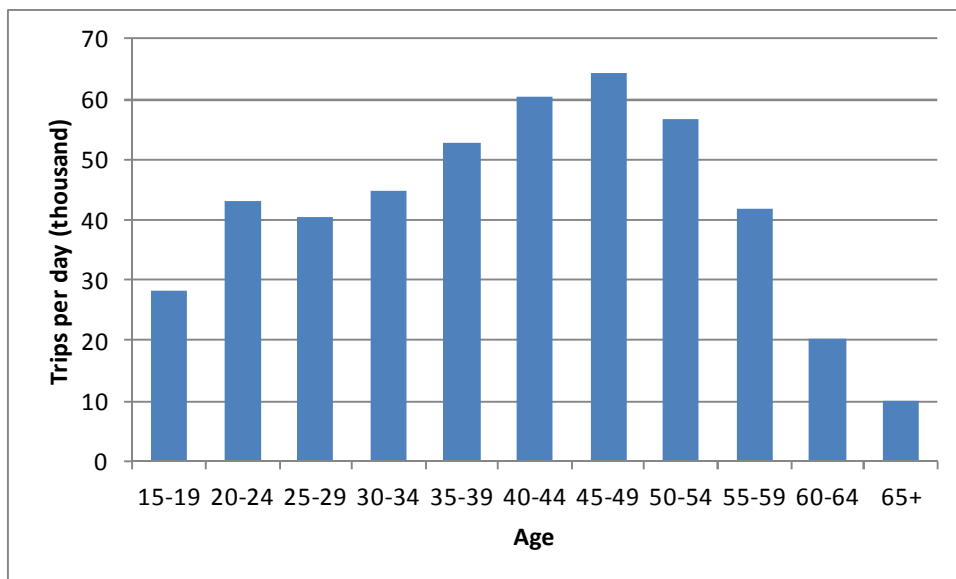


Figure 185: Total work trips by age, rest of Victoria 2006

Figure 186 and Figure 187 show the mode share of journey to work by age in 2011 for the MSD and rest of Victoria respectively. Generally, there were more younger workers who caught public transport or walked to work than older workers in the MSD. In fact, workers of age 25-29 had the lowest private vehicle share of 68% and the highest public transport share of 25%. Workers of the youngest age group 15-19 walked the most with a share of 5%. Bicycle share was the highest among workers of age between 25 and 44, of which the highest was workers of age 30-34 with a share of 2.4%.

For the rest of Victoria, private vehicle was the dominant mode of journey to work for most age groups with a share of over 89%. Only the youngest and oldest age groups had a lower share of 83% or less. In fact, the youngest age group had the highest public transport share

of 6%. They also had the highest bicycle share of 1.8% and the second highest walk share of 10%. The oldest age group had the highest walk share of 11%.

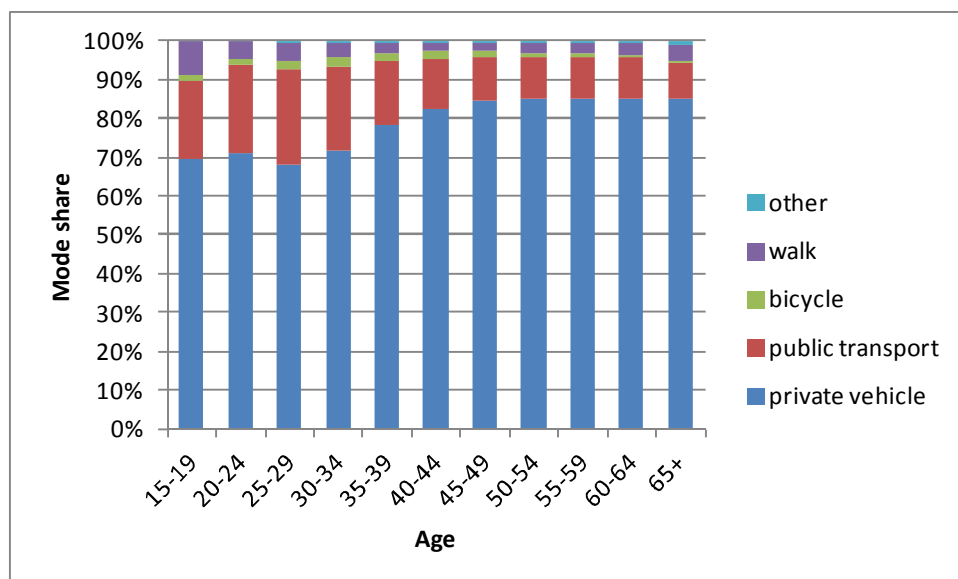


Figure 186: Mode share of journey to work by age, Melbourne Statistical Division 2011

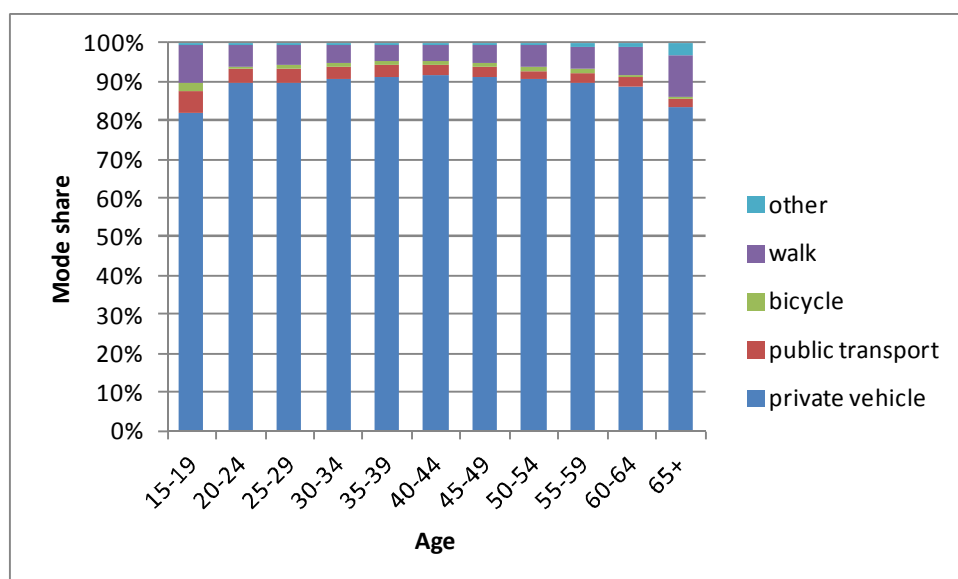


Figure 187: Mode share of journey to work by age, rest of Victoria 2011

Figure 188 and Figure 189 show the mode share of journey to work by age in 2006 for the MSD and rest of Victoria respectively. The pattern was similar to that in 2011.

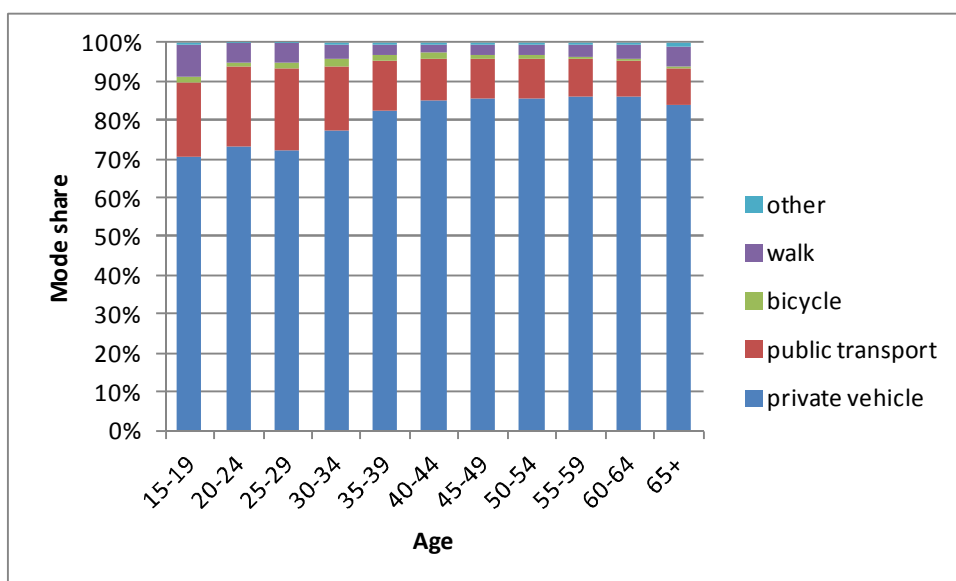


Figure 188: Mode share of journey to work by age, Melbourne Statistical Division 2006

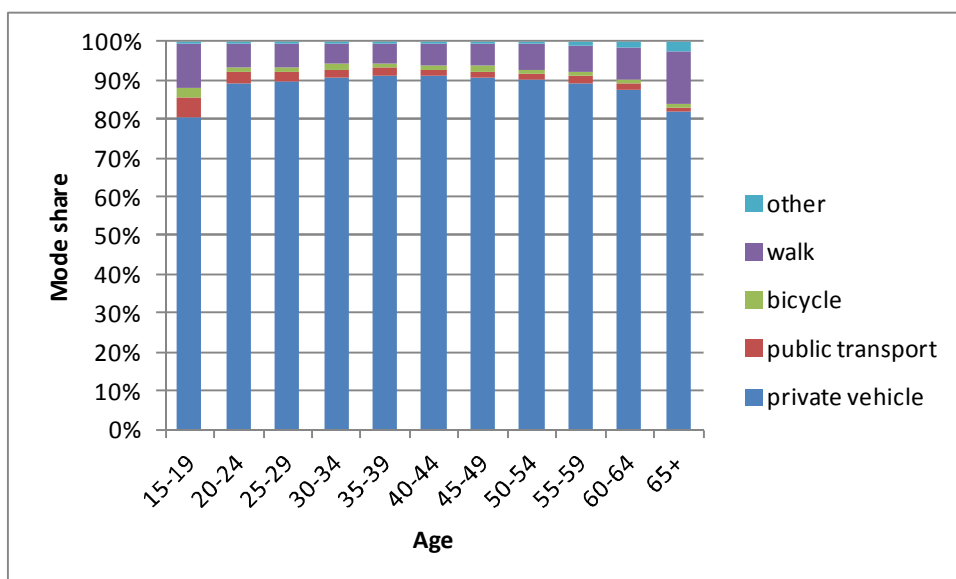


Figure 189: Mode share of journey to work by age, rest of Victoria 2006

8.2 Trip Origin

To show the spatial distribution of trip origins and destinations by age, the age groups are aggregated into the following groups: 15-29, 30-44 and 45 or over. These groups roughly undertook the same number of trips.

Figure 190-Figure 192 show the origins of journey to work in the MSD in 2011 for workers of age 15-29, 30-44 and 45 or over respectively. Workers of age 15-29 came mostly from the City of Melbourne and surrounding areas. Workers of age 30-44 were more dispersed but many came from the City of Melbourne and surrounding areas. Workers of age 45 or over were quite evenly distributed within the urban growth boundary.

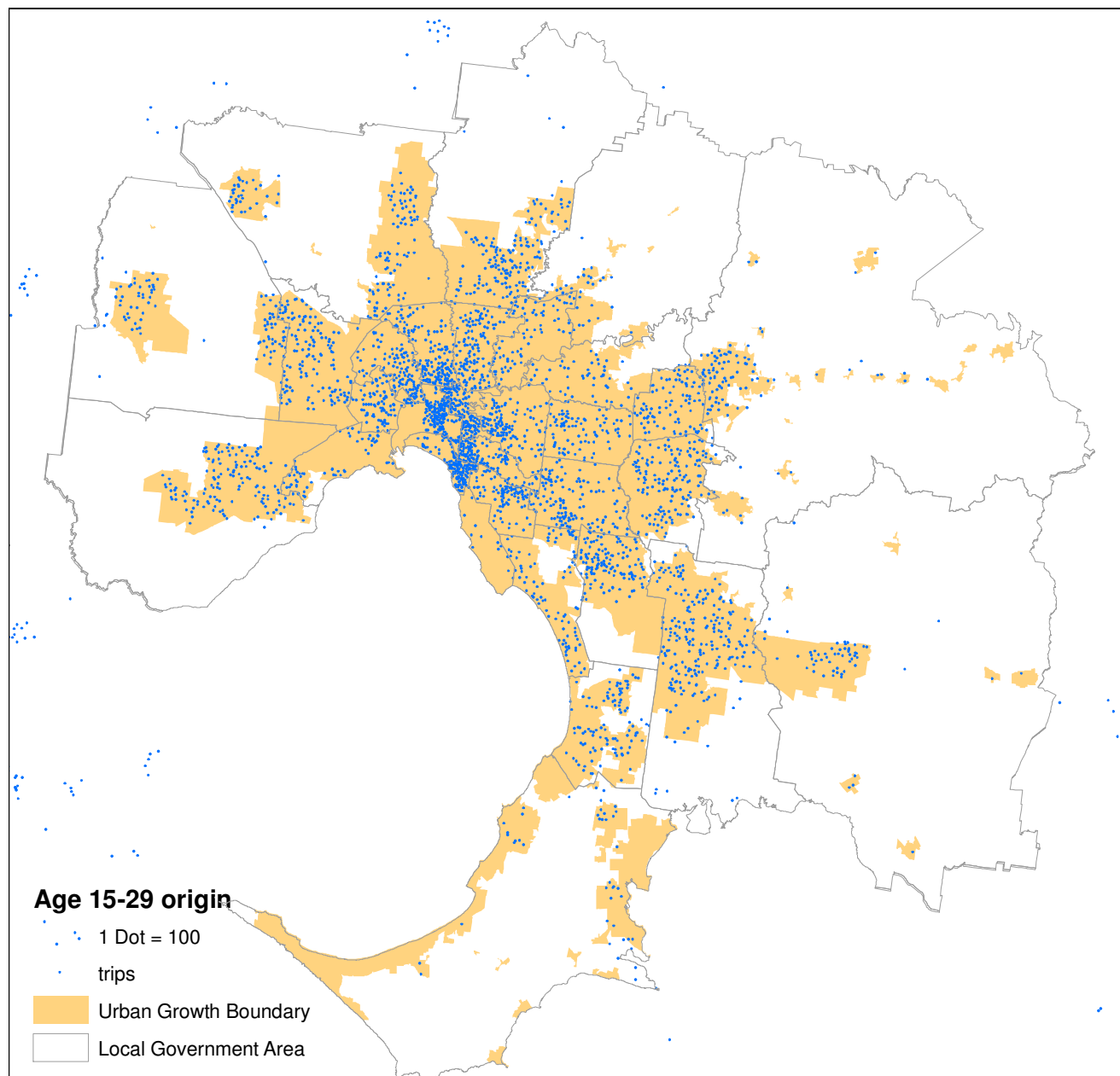


Figure 190: Origins of journey to work for workers of age 15-29, Melbourne Statistical Division 2011

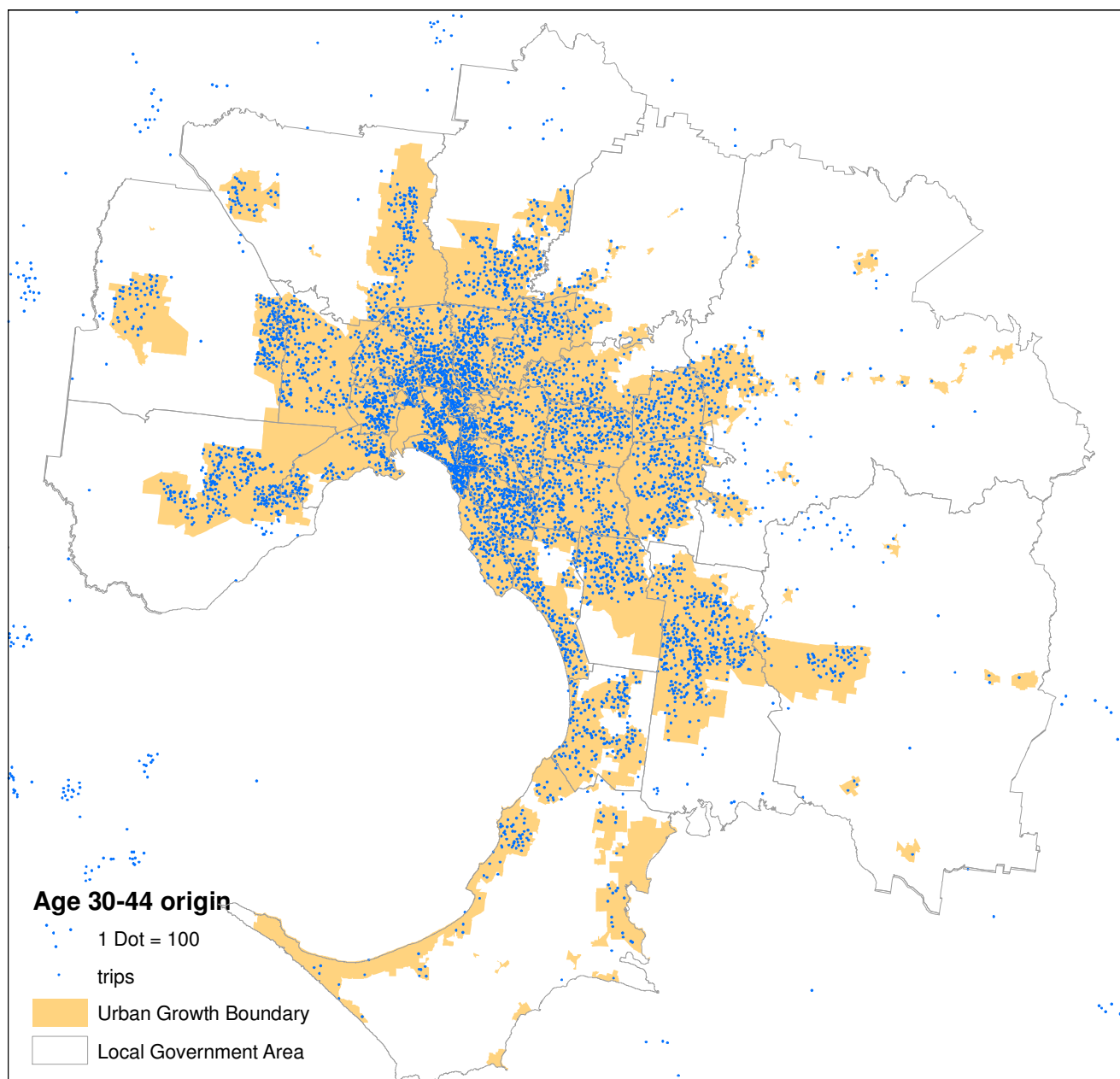


Figure 191: Origins of journey to work for workers of age 30-44, Melbourne Statistical Division 2011

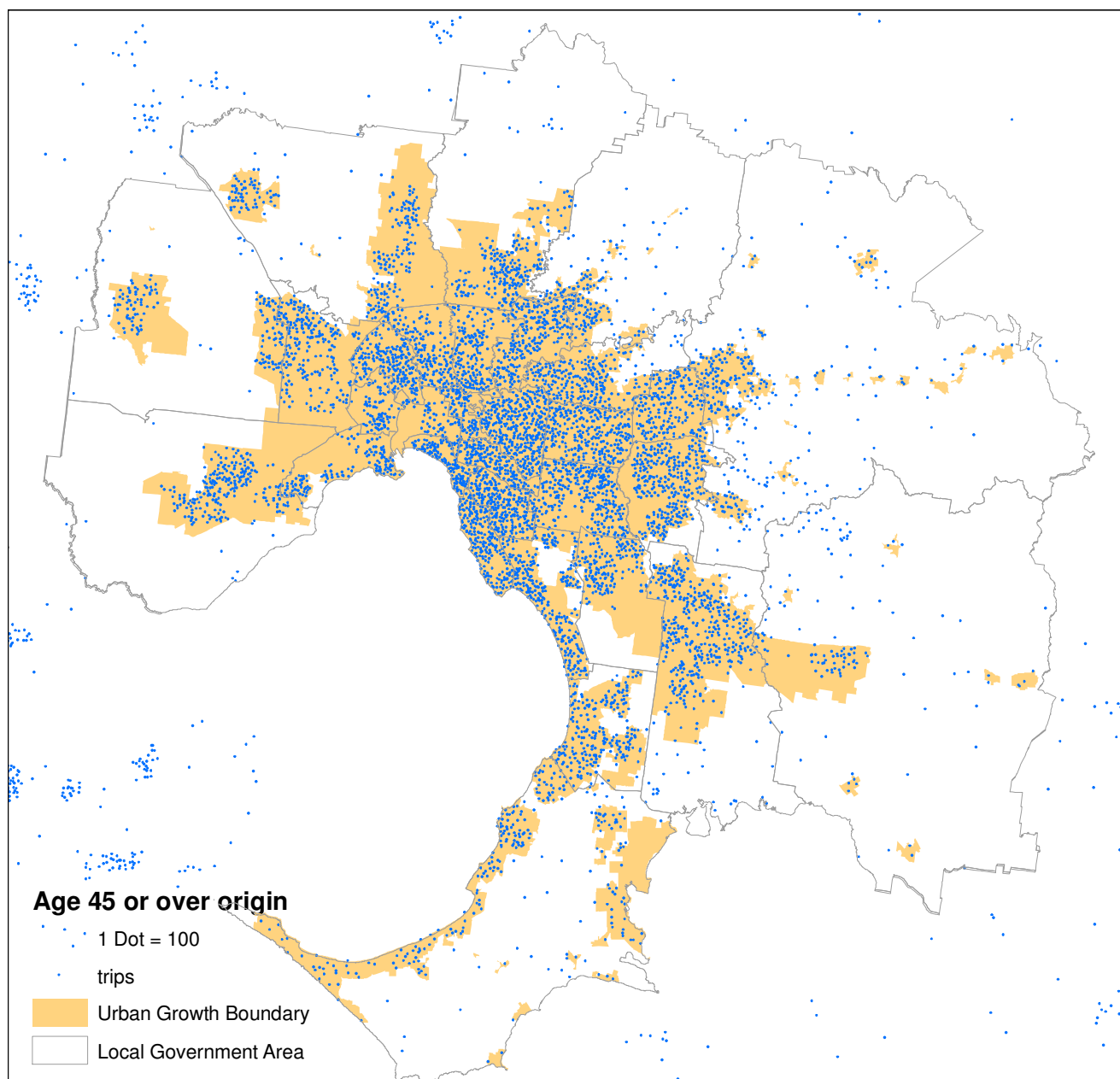


Figure 192: Origins of journey to work for workers of age 45 or over, Melbourne Statistical Division 2011

Figure 192-Figure 194 show the origins of journey to work in Victoria in 2011 for workers of age 15-29, 30-44 and 45 or over respectively. Workers of age 15-29 concentrated more in major towns and less dispersed than those of age 30-44. Workers of age 30-44 in turn were less dispersed than those of age 45 or over. Workers of age 45 or over were the most dispersed and a significant number came from remote parts of Victoria.

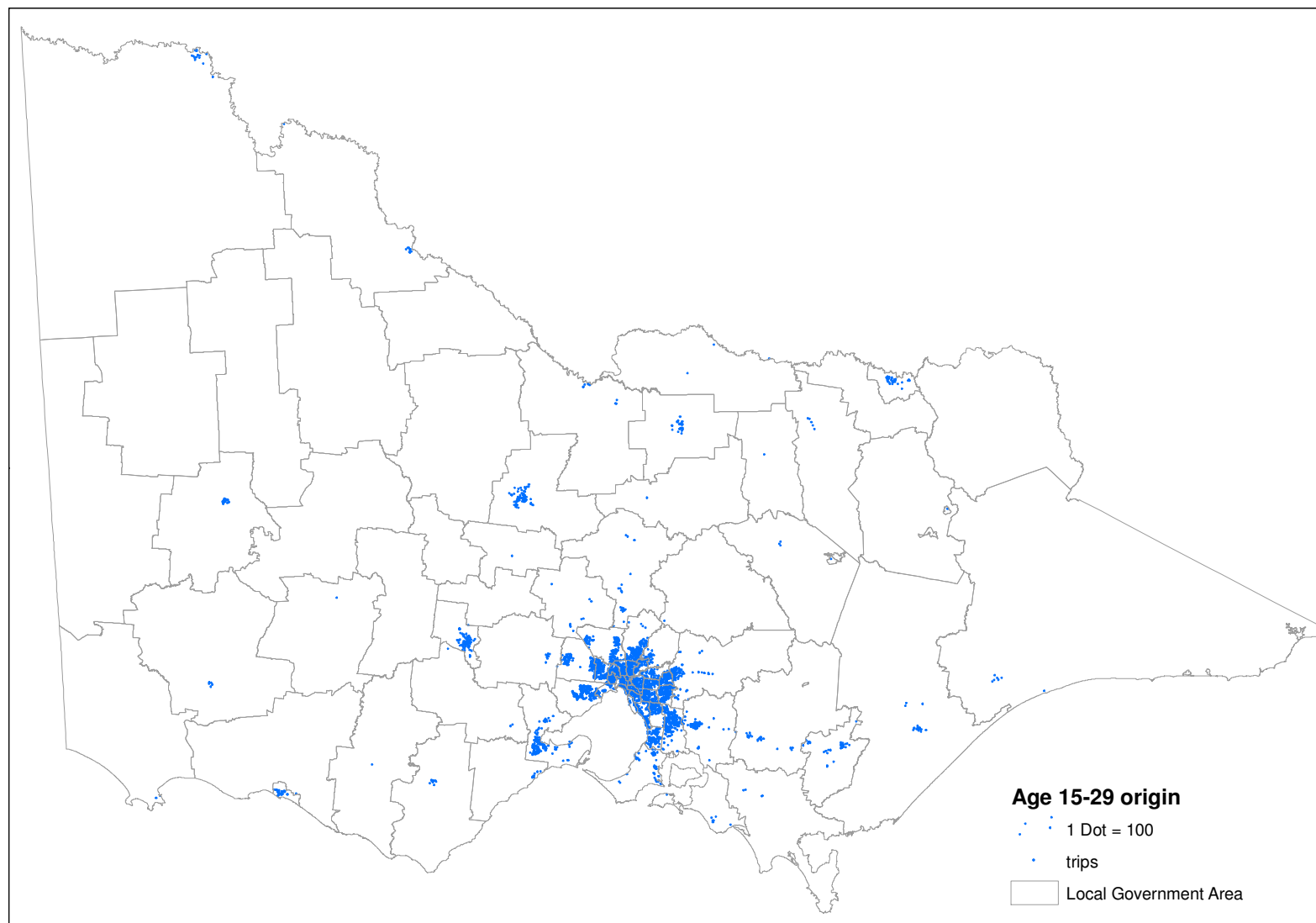


Figure 193: Origins of journey to work for workers of age 15-29, Victoria 2011

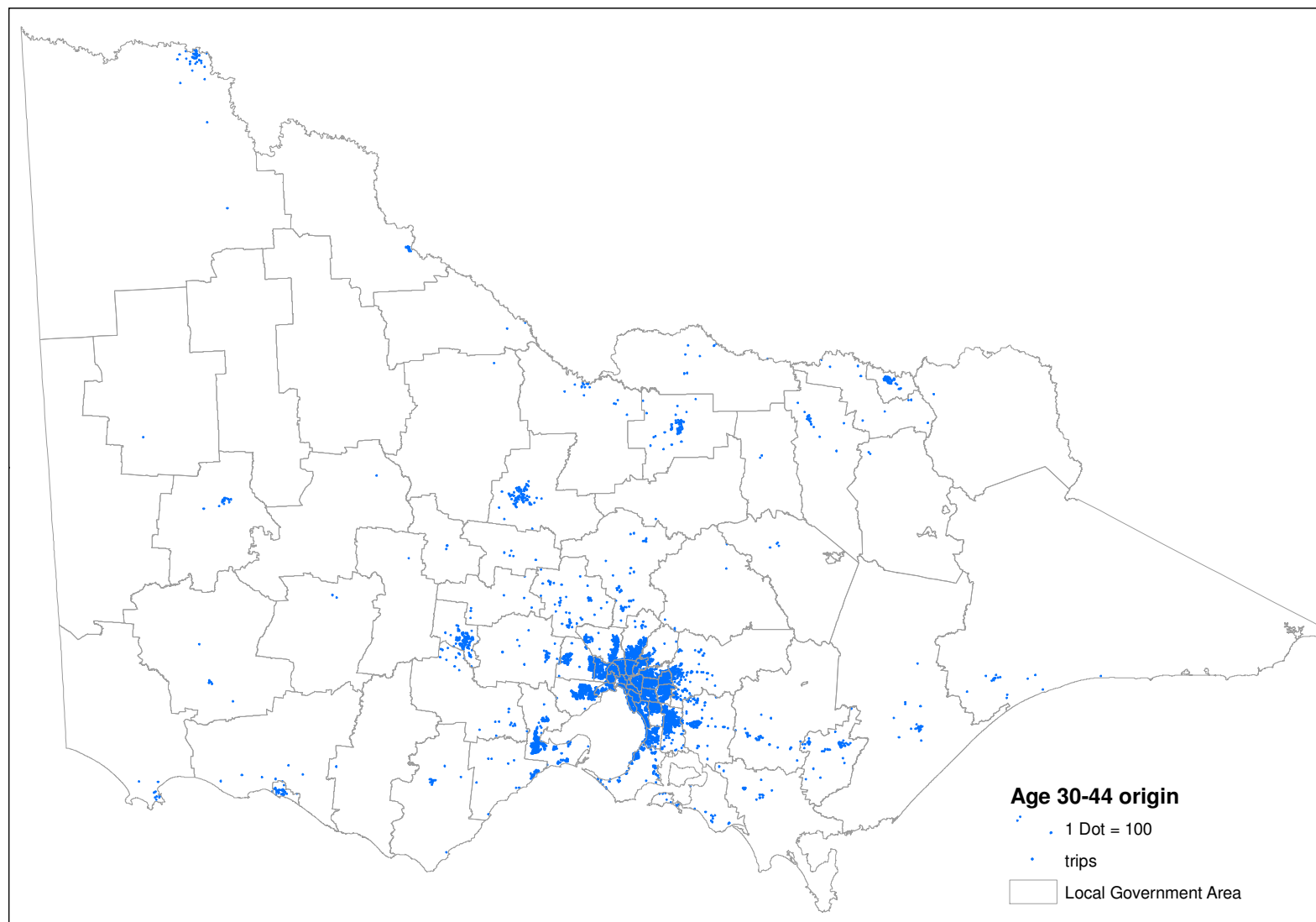


Figure 194: Origins of journey to work for workers of age 30-44, Victoria 2011

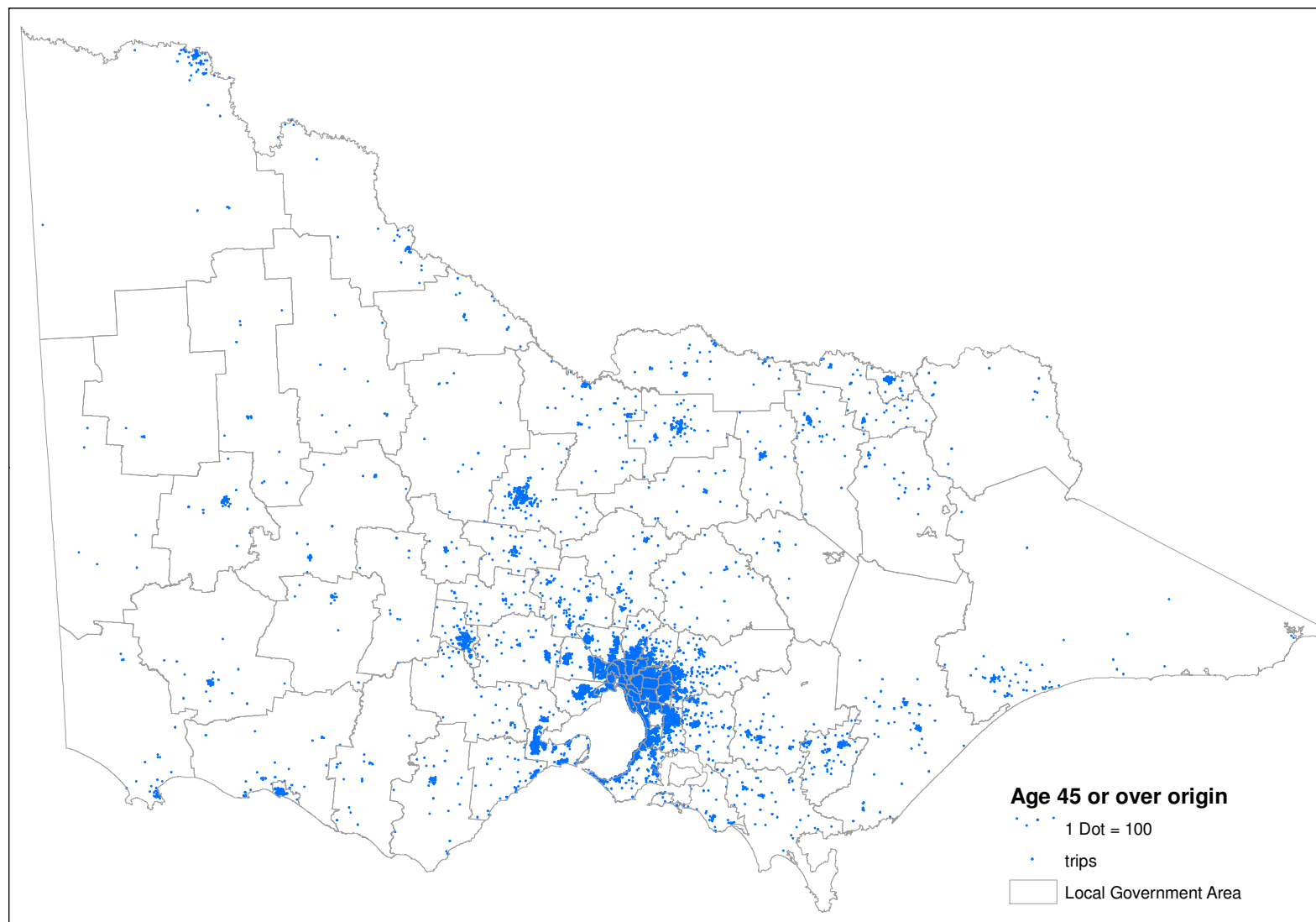


Figure 195: Origins of journey to work for workers of age 45 or over, Victoria 2011

Figure 196-Figure 198 show the origins of journey to work in the MSD in 2006 for workers of age 15-29, 30-44 and 45 or over respectively. The trip origins were generally more dispersed than those in 2011. However, as in 2011, many workers of age 15-29 and age 30-44 came from the City of Melbourne and surrounding areas. In contrast, there were fewer workers of age 45 or over came from the City of Melbourne or surrounding areas.

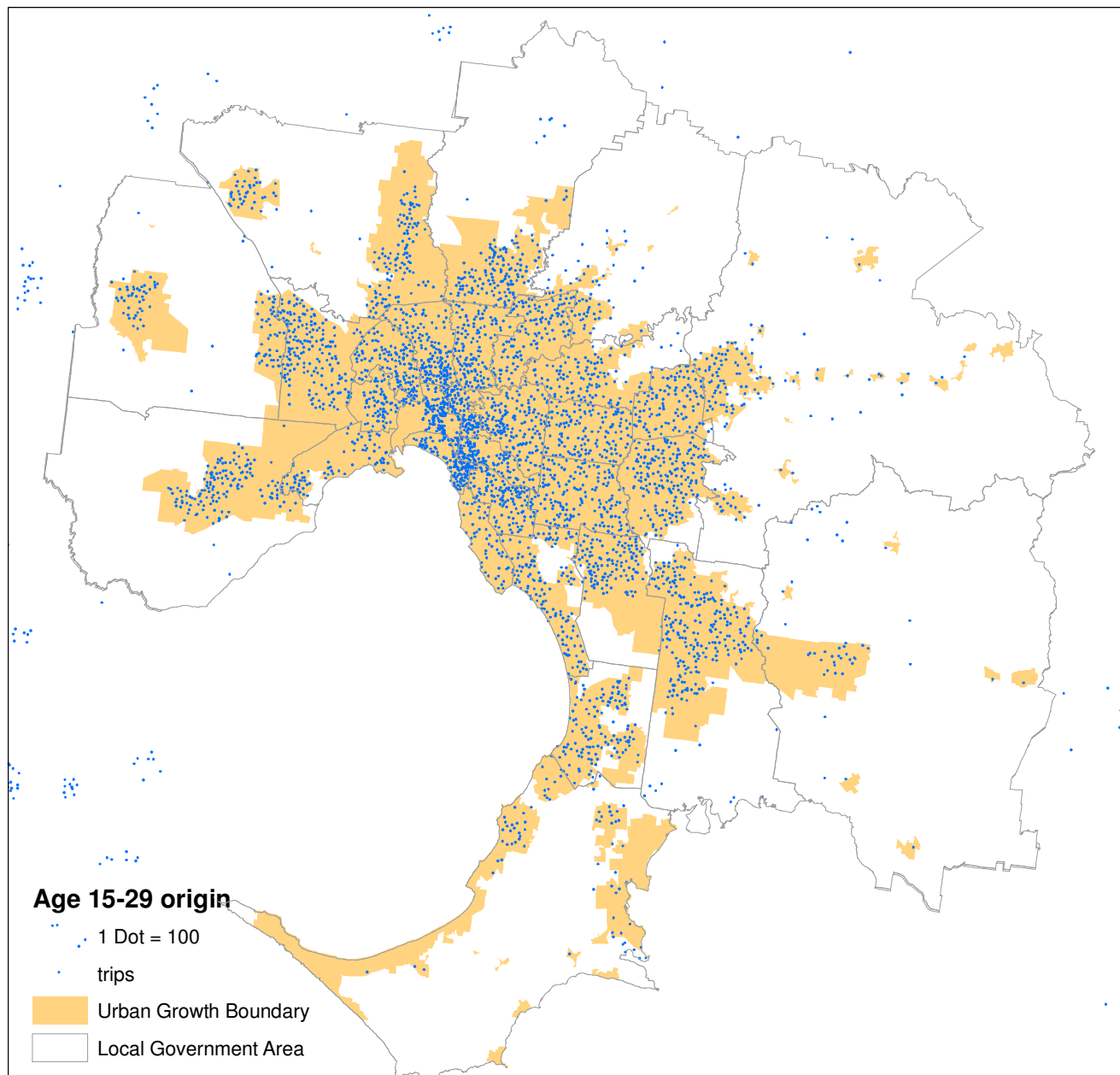


Figure 196: Origins of journey to work for workers of age 15-29, Melbourne Statistical Division 2006

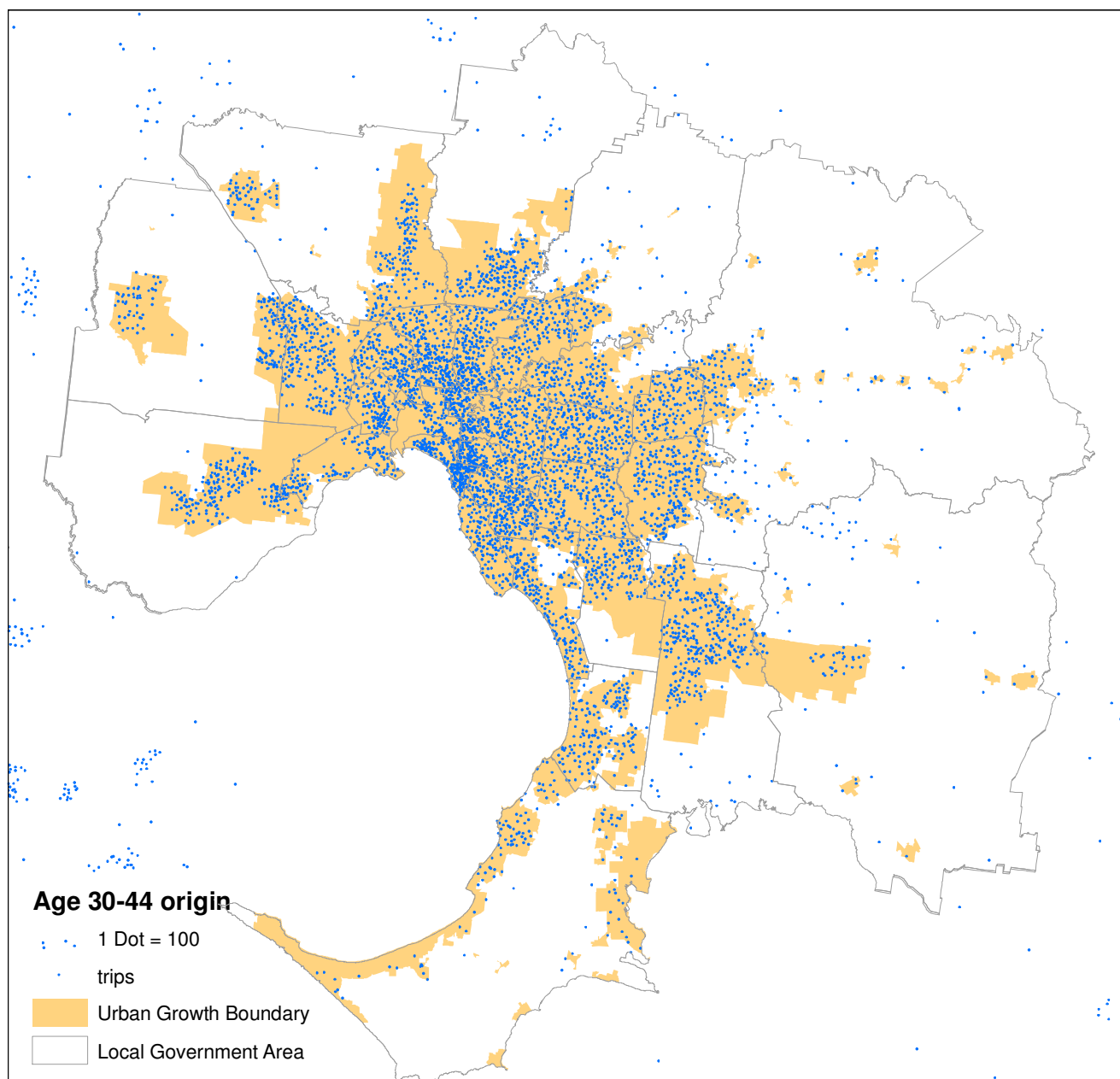


Figure 197: Origins of journey to work for workers of age 30-44, Melbourne Statistical Division 2006

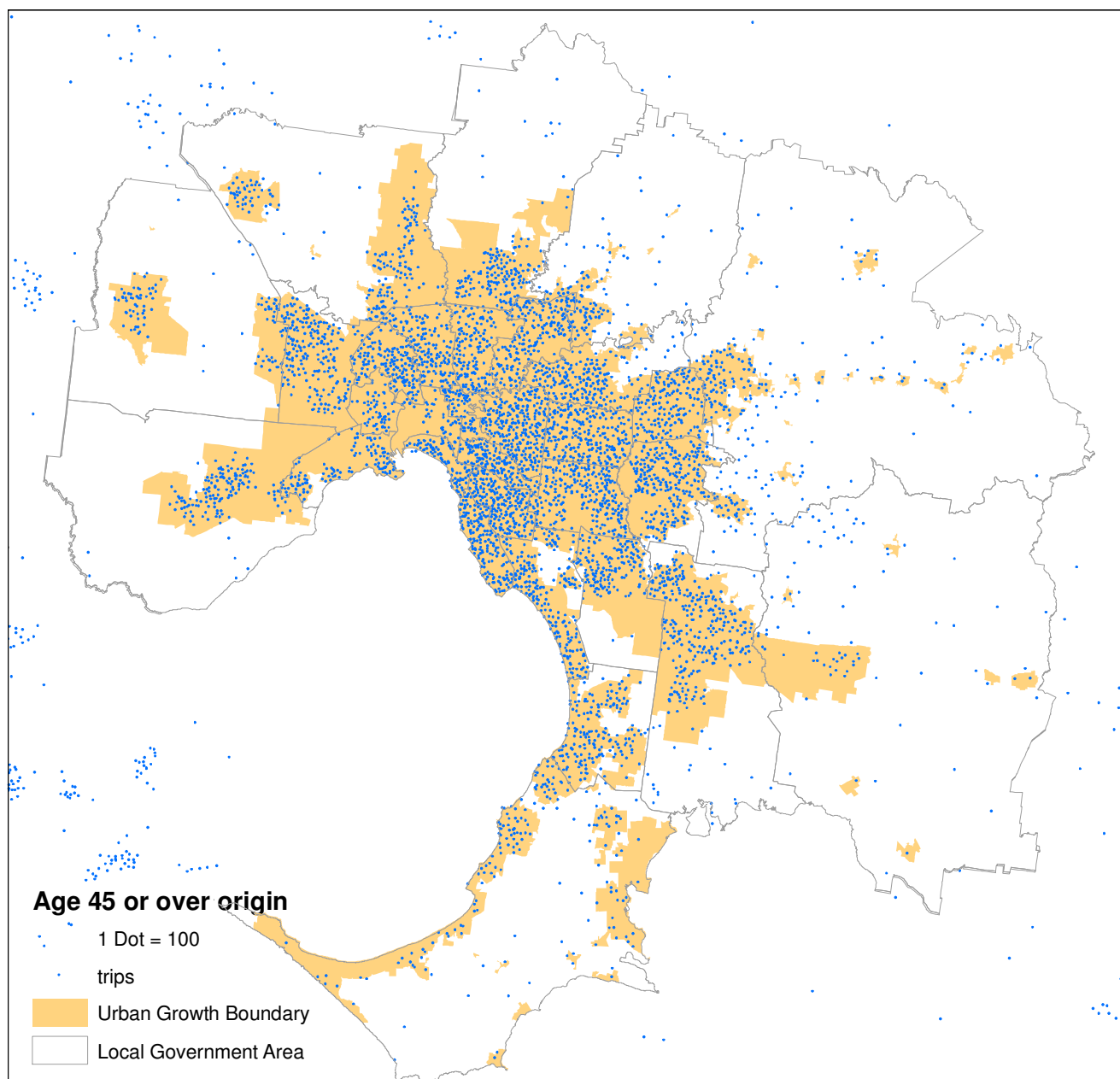


Figure 198: Origins of journey to work for workers of age 45 or over, Melbourne Statistical Division 2006

Figure 199-Figure 201 show the origins of journey to work in Victoria in 2006 for workers of age 15-29, 30-44 and 45 or over respectively. The pattern was similar to that in 2011, with younger workers concentrated more in major towns and older workers dispersed more through the rest of Victoria.

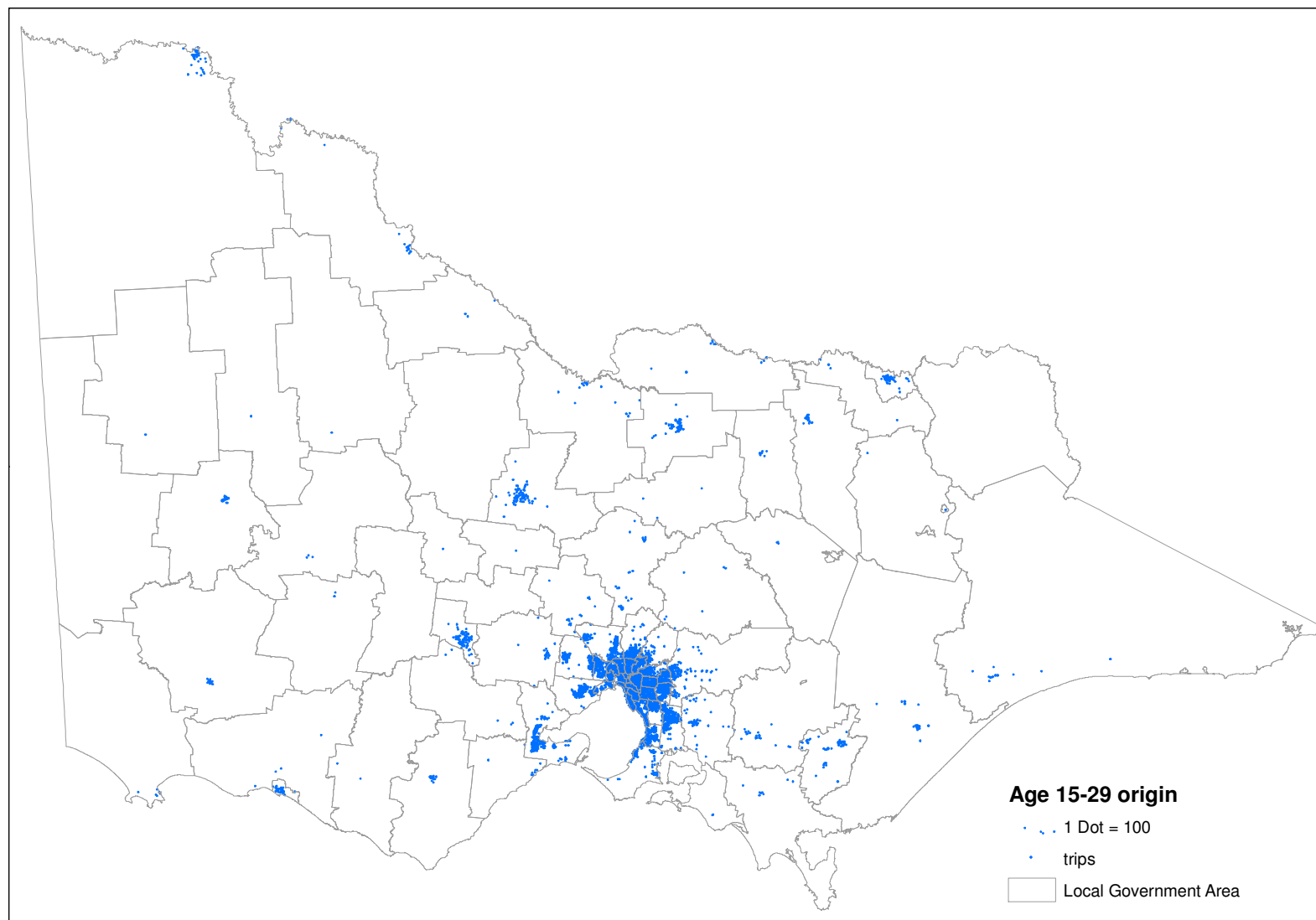


Figure 199: Origins of journey to work for workers of age 15-29, Victoria 2006

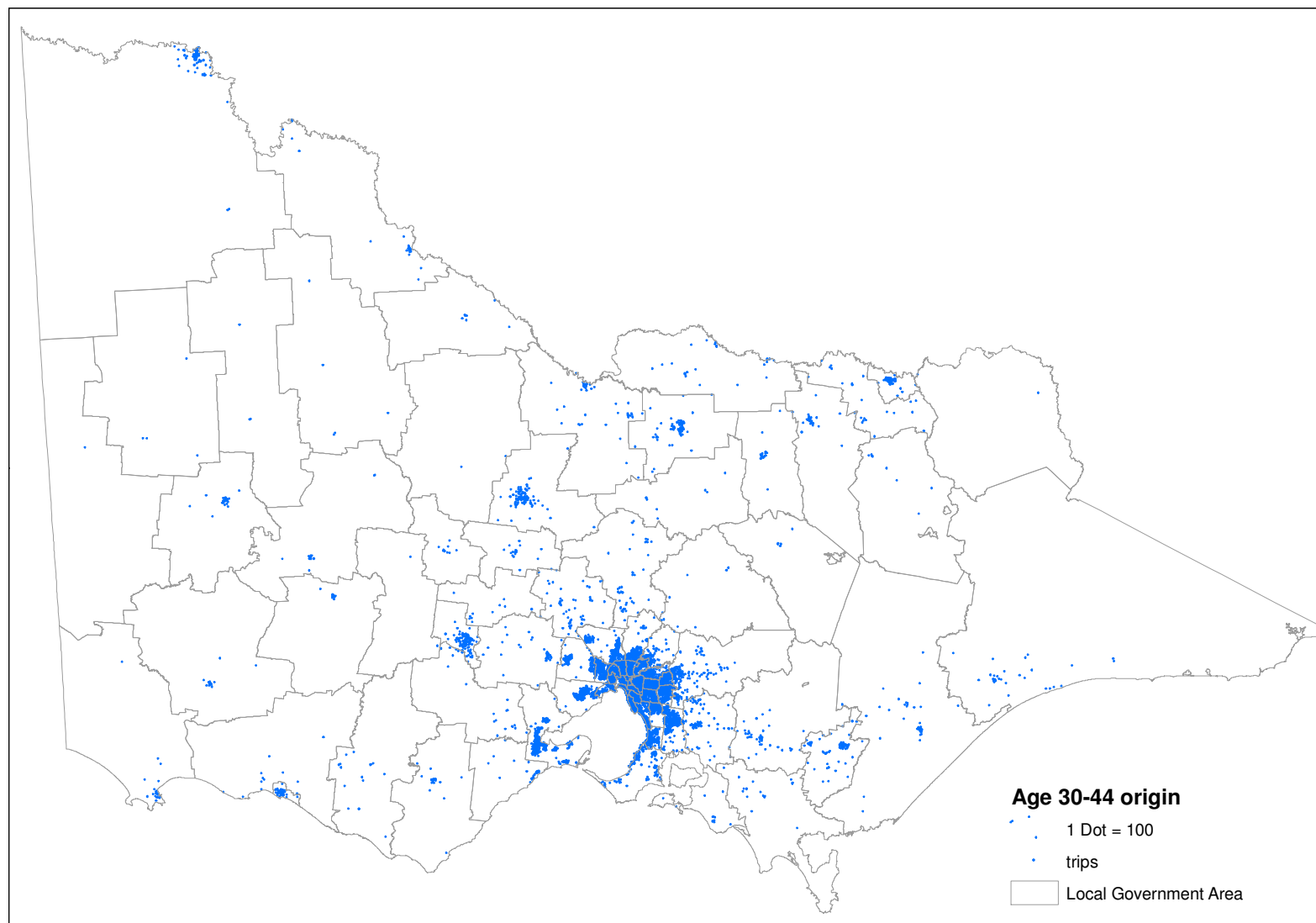


Figure 200: Origins of journey to work for workers of age 30-44, Victoria 2006

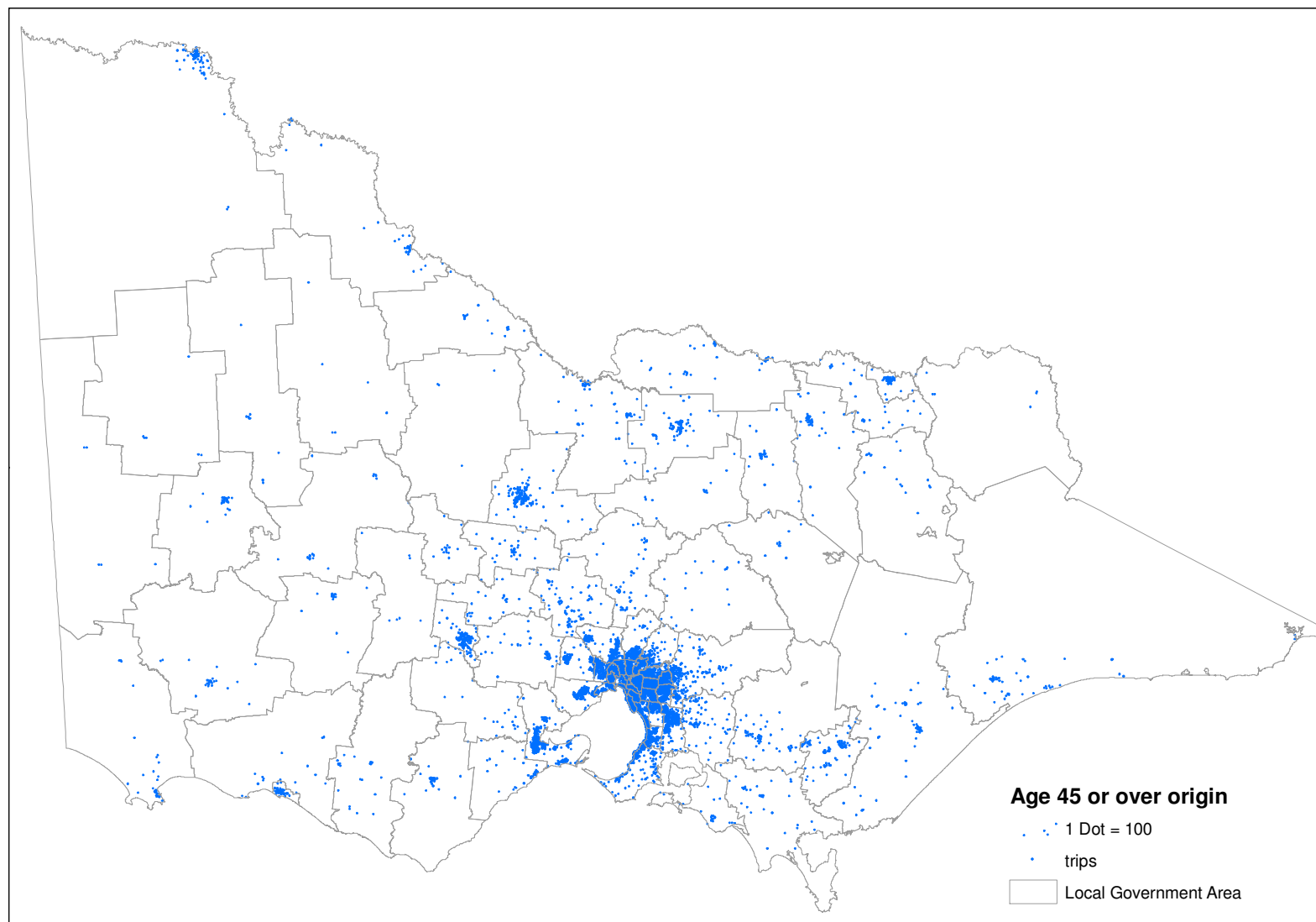


Figure 201: Origins of journey to work for workers of age 45 or over, Victoria 2006

8.3 Trip Destination

Figure 202 and Figure 204 show the destinations of journey to work in the MSD in 2011 for workers of age 15-29, 30-44 and 45 or over respectively. The distribution of the destinations was similar in that the different age groups all have similar major destinations of work. However, the destinations were generally more dispersed for older workers than younger workers.

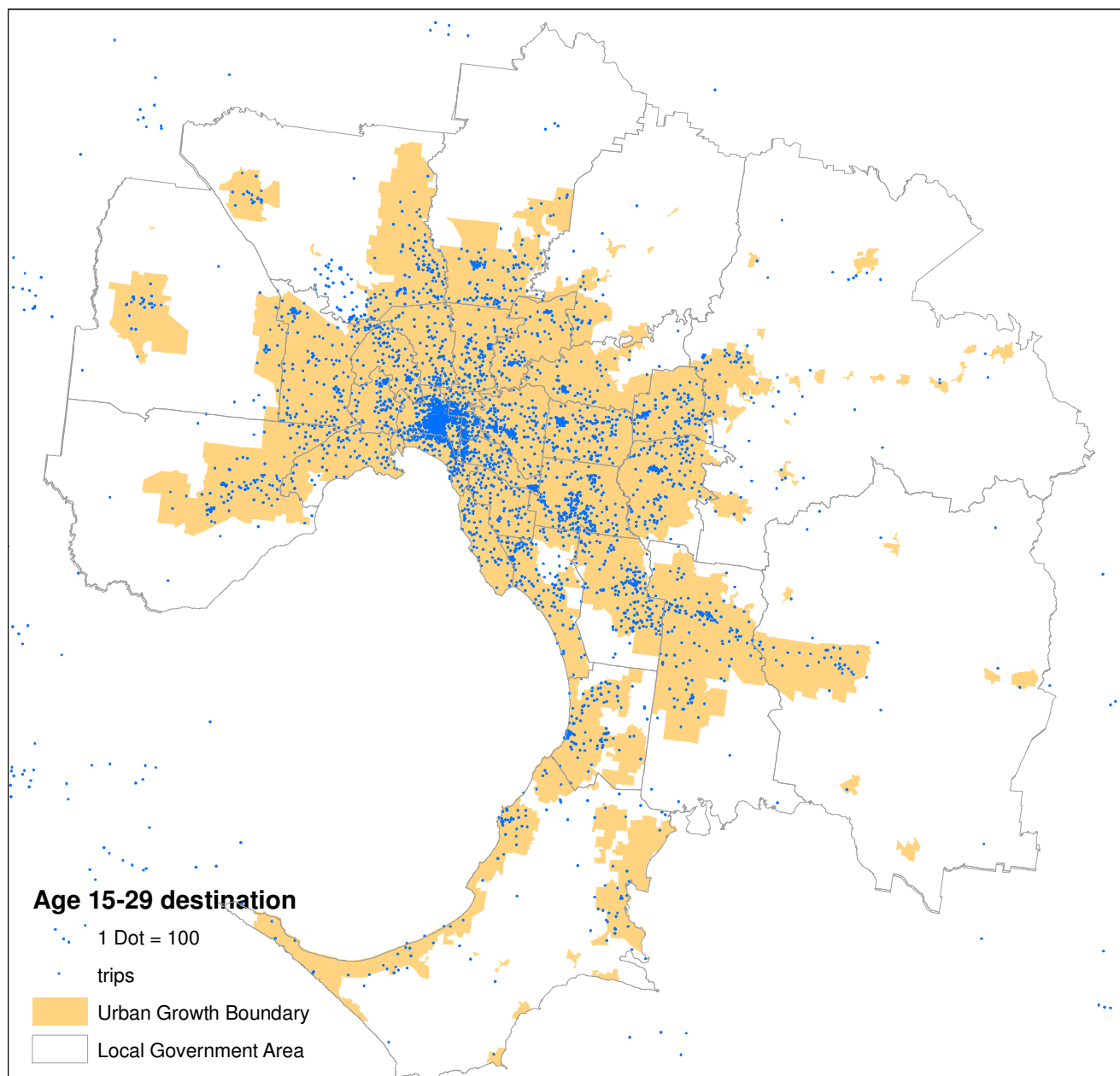


Figure 202: Destinations of journey to work for workers of age 15-29, Melbourne Statistical Division 2011

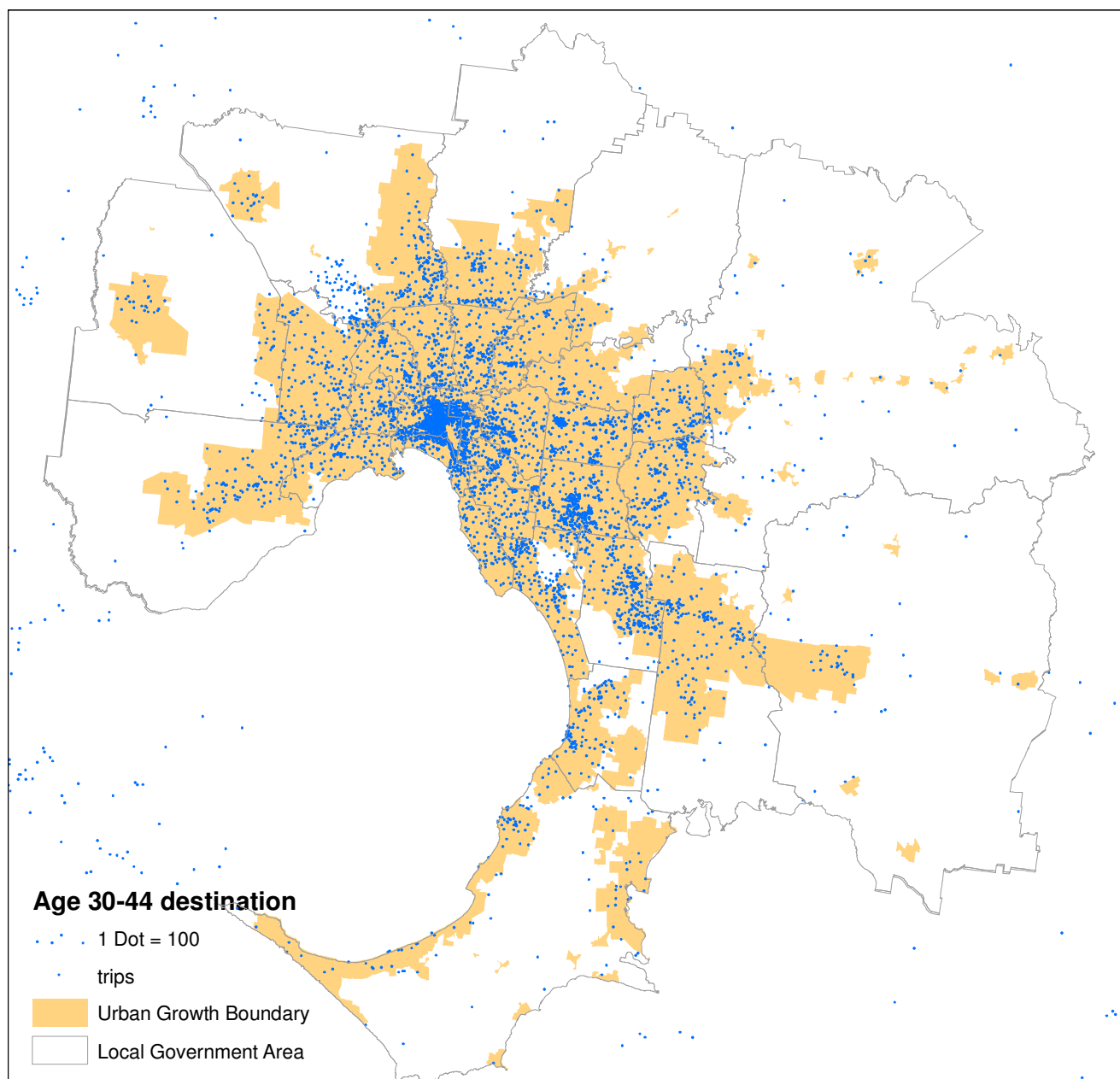


Figure 203: Destinations of journey to work for workers of age 30-44, Melbourne Statistical Division 2011

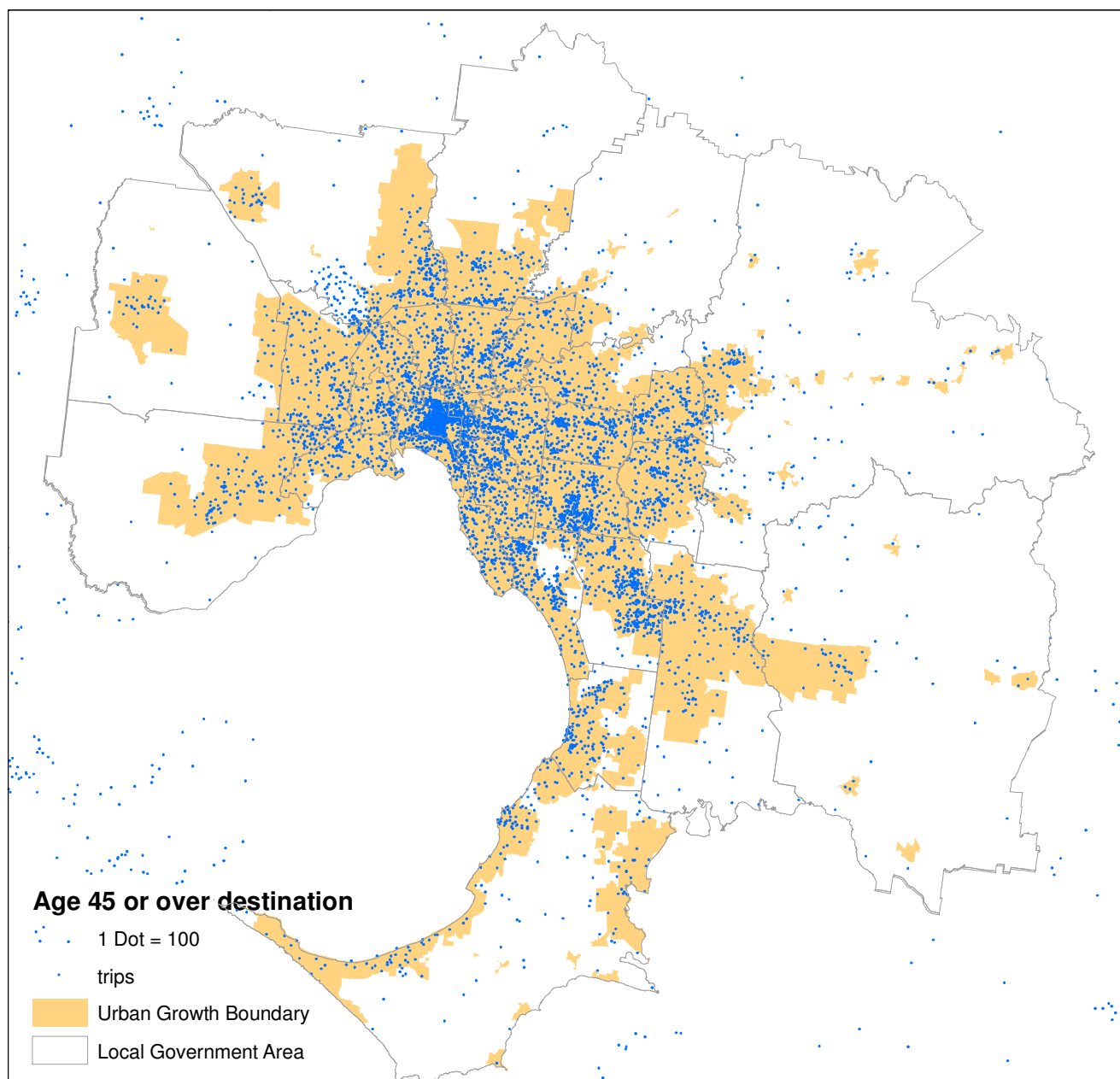


Figure 204: Destinations of journey to work for workers of age 45 or over, Melbourne Statistical Division 2011

Figure 205-Figure 207 show the destinations of journey to work in Victoria in 2011 for workers of age 15-29, 30-44 and 45 or over respectively. The destinations were generally less dispersed for younger workers than older workers. However, compared with the trip origins, the destinations of young workers (age 15-29) were more dispersed. This indicates that many young workers travelled outside their towns to work.

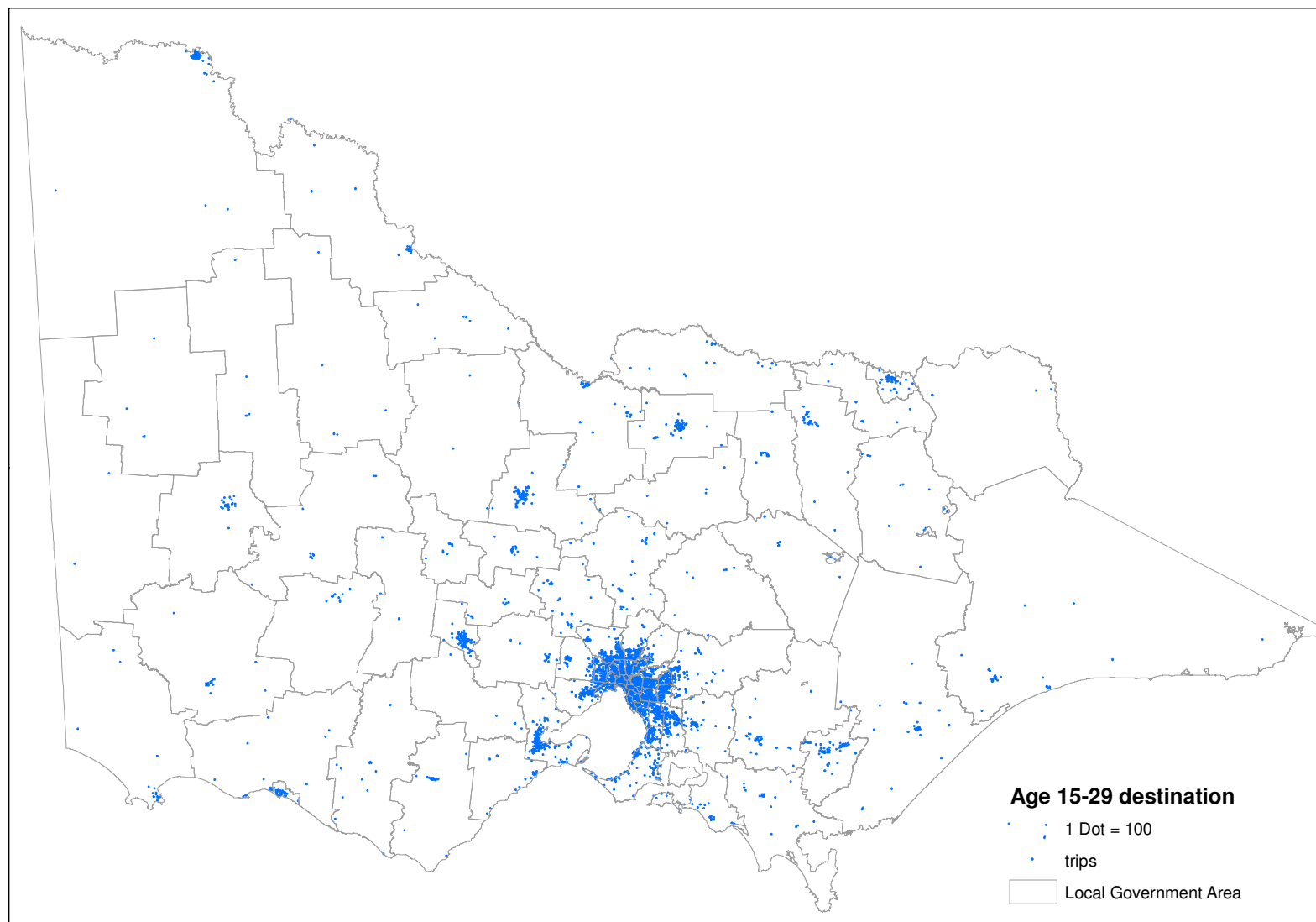


Figure 205: Destinations of journey to work for workers of age 15-29, Victoria 2011

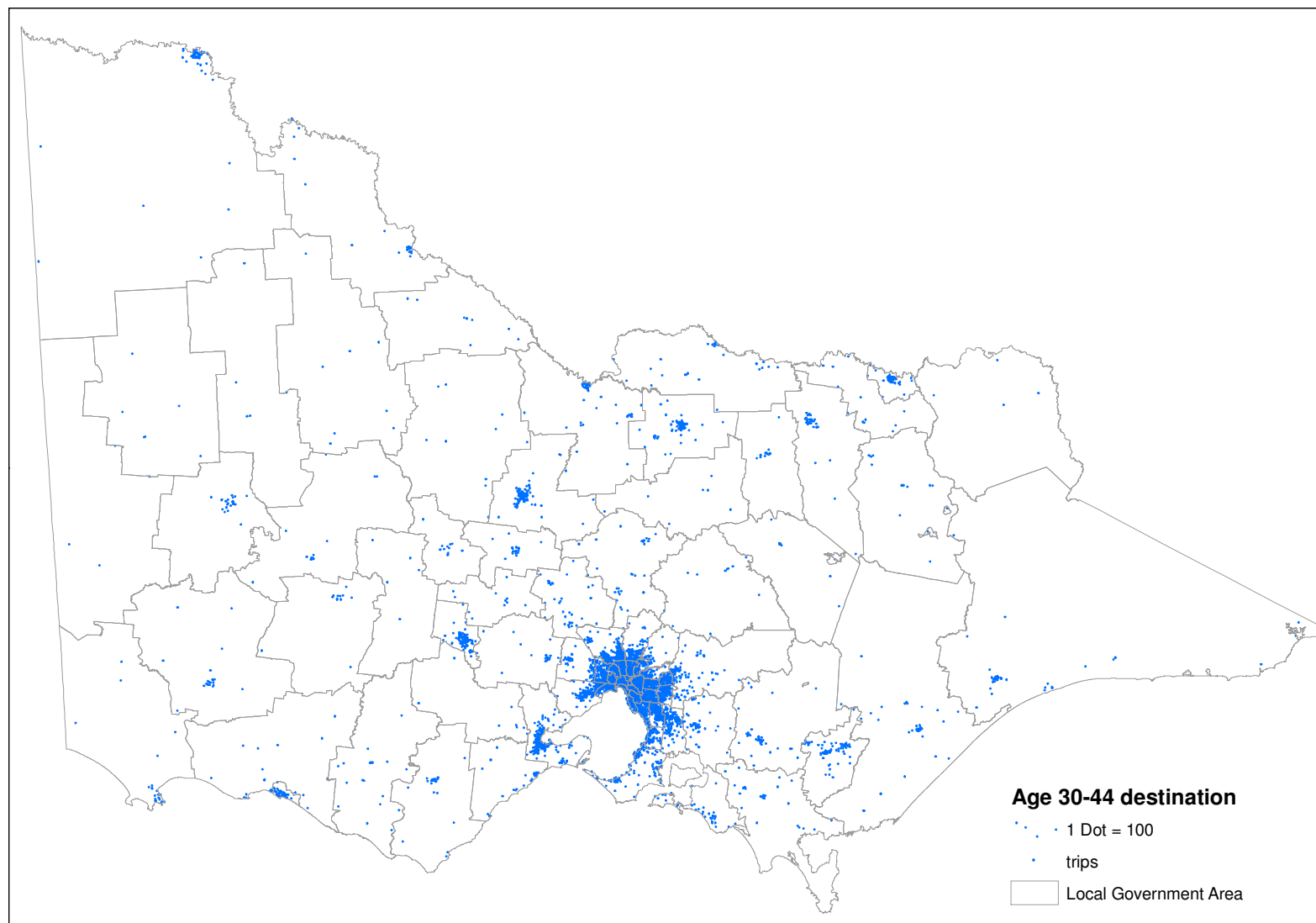


Figure 206: Destinations of journey to work for workers of age 30-44, Victoria 2011

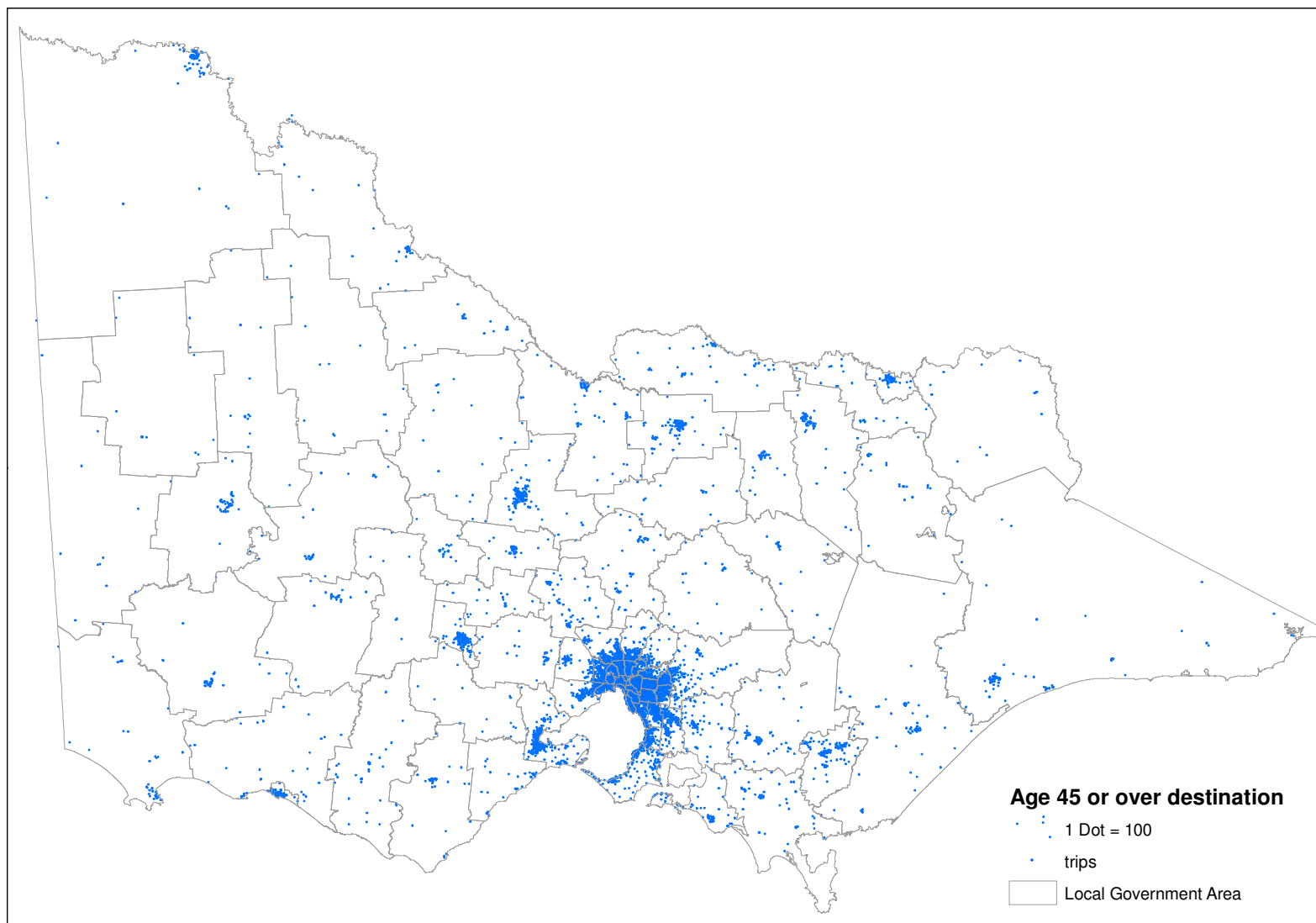


Figure 207: Destinations of journey to work for workers of age 45 or over, Victoria 2011

Figure 208-Figure 210 show the destinations of journey to work in the MSD in 2006 for workers of age 15-29, 30-44 and 45 or over respectively⁴. The pattern was similar to that in 2011 with the destinations of younger workers less dispersed than those of older workers.

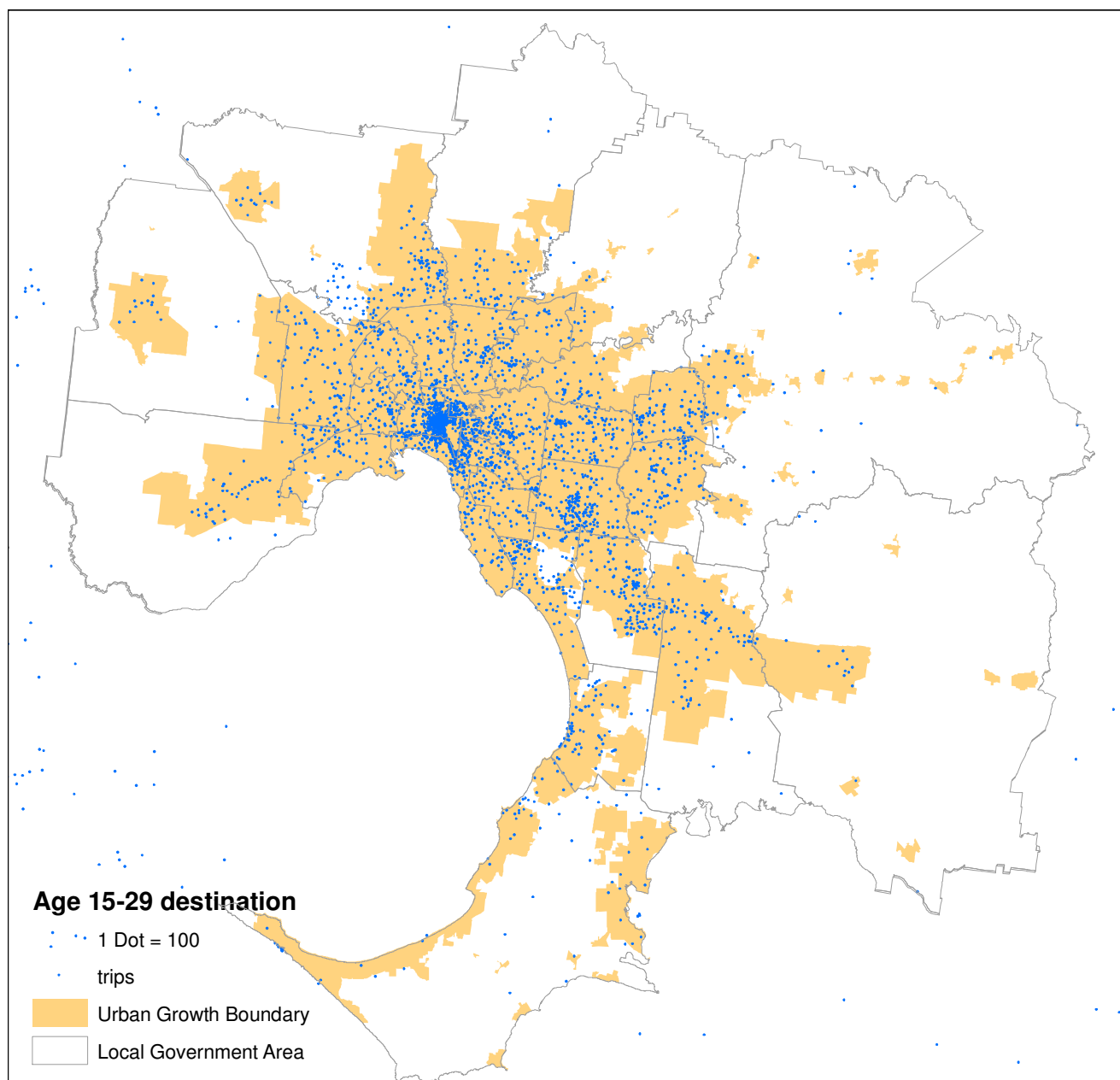


Figure 208: Destinations of journey to work for workers of age 15-29, Melbourne Statistical Division 2006

⁴ Fine detail of destinations by age was not available for 2006. Only number of trips by age to each SLA was available. The fine detail of destinations within each SLA was estimated with the distribution of destinations of all work trips.

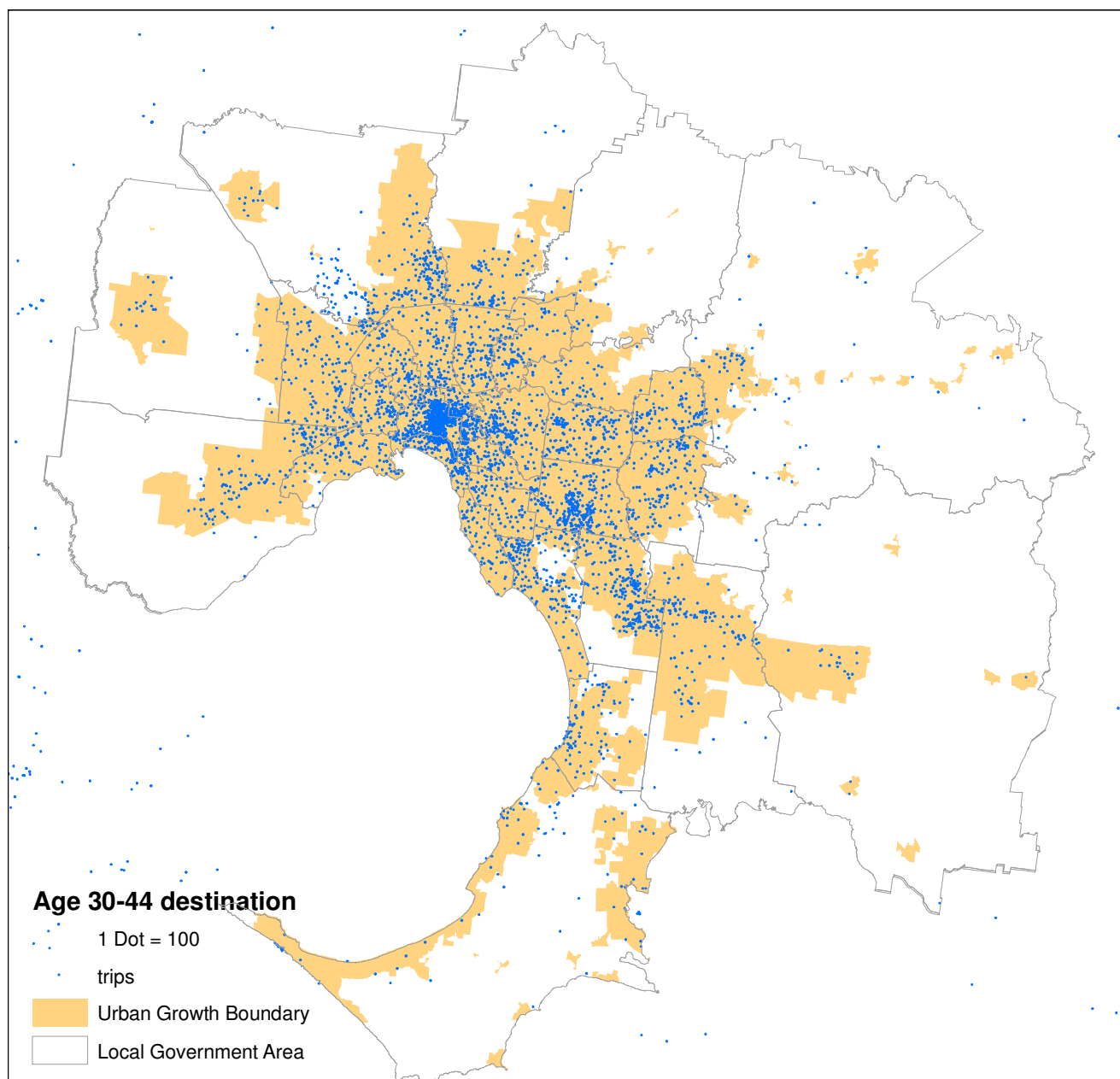


Figure 209: Destinations of journey to work for workers of age 30-44, Melbourne Statistical Division 2006

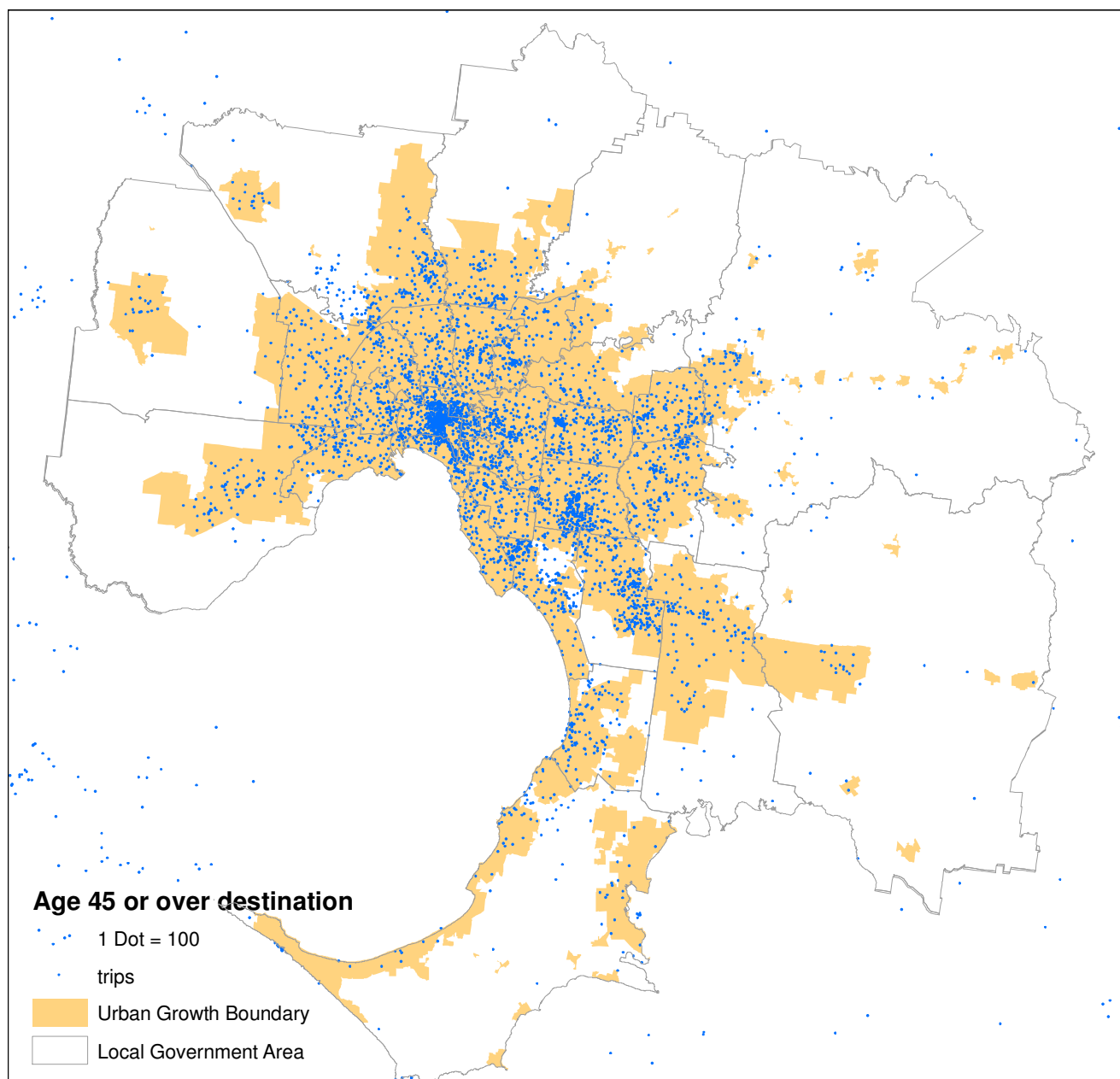


Figure 210: Destinations of journey to work for workers of age 45 or over, Melbourne Statistical Division 2006

9 Conclusions

The journeys to work of all modes in the MSD grew significantly between 2006 and 2011 compared with the previous Census years of 1996 and 2001. Private vehicle grew by 10%, public transport 33%, bicycle 36% and walk 10% from 2006 to 2011. This is consistent with the results in the Traffic Monitor 2011-2012, which shows volumes of private vehicle grew by 11%, public transport 33% and bicycle 33% from 2006 to 2011.

The City of Melbourne was by far the largest destination of journey to work. There was a slight decrease of people going to Melbourne to work between 2001 and 2006. However, since 2006 the number of trips has increased dramatically from 240,000 trips per day in 2006 to 320,000 trips per day in 2011. Most of the increased trips originated from the City of Melbourne itself and the growth areas of Wyndham, Melton, Hume, Whittlesea, Casey and Cardinia.

Most people in the MSD needed to travel outside their LGA to work. Only Melbourne and Mornington Peninsula had about equal numbers of internal and external work trips. Private vehicle was the dominant mode of travel to work in most LGAs although most trips to the City of Melbourne were undertaken by public transport.

The mode shares of public transport, bicycle and walk in the MSD all increased from 1996 to 2011 at the expense of that of private vehicle. The mode share of public transport increased from 13% in 1996 to 17% in 2011. The highest increase was between 2006 and 2011 when the mode share jumped from 15% to 17%. The mode share of bicycle almost doubled from 0.9% in 1996 to 1.7% in 2011. The highest increase was between 2001 and 2006 from 1.0% to 1.4%. The mode share of walk increased from 3.0% in 1996 to 3.5% in 2011. The highest increase was between 2001 and 2006 when the mode share jumped from 2.9% to 3.7%. The mode share of private vehicle dropped from 83% in 1996 to 77% in 2011. The largest drop was between 2006 and 2011 from 80% to 77%.

People who worked at home and did not go to work on the Census day contributed to 14% of the total number of workers in the MSD in 2011. Most people working at home lived in the eastern and southern inner suburbs. On the other hand, people living in the outer suburbs, who often need to travel for a long distance to work, were less likely to work at home.

For the rest of Victoria, the growth of private vehicle trips has been high since 1996. The growth was 19% between 2006 and 2011, much higher than the 10% in the MSD. There was a sudden jump of public transport trips between 2006 and 2011, a growth of about 120%. However, the share of public transport was very small in the rest of Victoria, which was about 3% in 2011. Bicycle and walk trips grew steadily from 1996 to 2006 but declined slightly between 2006 and 2011.

In contrast to the MSD, journeys to work in most of the LGAs in the rest of Victoria were internal. Generally, LGAs near the fringe of MSD and regional cities had higher proportion of external trips. Many people in these LGAs would travel to the MSD or regional cities to work.

Private vehicle was the dominant mode of travel in all LGAs in the rest of Victoria. The average mode share remained much the same at 90% between 1996 and 2011. Walking was the second most common mode of travel in many LGAs. The average mode share was the highest in 2001 at 7.2%. Since then it has declined to 5.0% in 2011. Public transport was significant only for some LGAs near the MSD. Bicycle use was generally low in country Victoria.

References

Department of Transport, Planning and Local Infrastructure (2013), *The Victorian Transport Statistics Portal*, Department of Transport, Planning and Infrastructure, Melbourne (<http://www1.transport.vic.gov.au/VTSP/homepage.html>)

VicRoads (1999), *Journey to Work 1996, Census Statistics for Victorian Study Area*, VicRoads, Melbourne.

VicRoads (2008), *Journey to Work 1996-2006, Census Statistics for Origin/Destination of Journey to Work, Method of Travel and Mode Choice for Victorian Geographies*, VicRoads, Melbourne.

VicRoads (2013), *Traffic Monitor 2011-2012*, VicRoads, Melbourne.