

DelDOT's Household Survey

Selected Data for New Castle County (1995-2007)

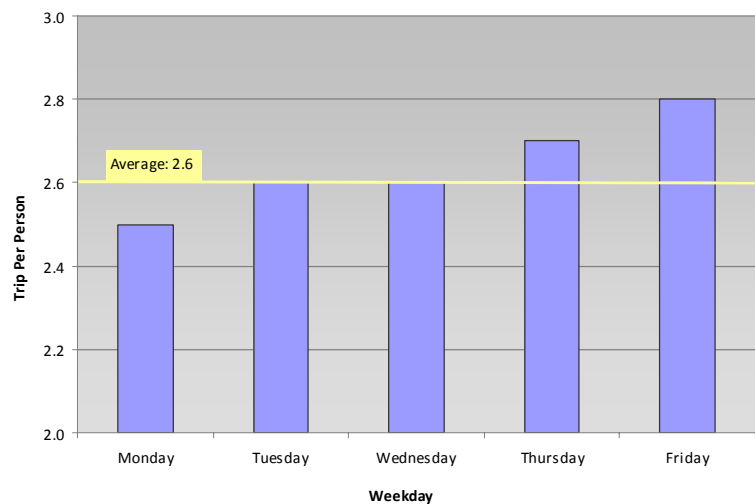
For more than a decade, the Delaware Department of Transportation (DelDOT) has collected detailed travel data from residents throughout the First State. About 15,000 Delawareans (1,000 per year) have participated.

This data report explores findings and trends in the travel patterns of New Castle County's survey participants.

Trips per Weekday

- In the average work week, trips (all modes considered) increase as the week progresses.
- Subsequently, more trips occur on Fridays than any other day. As was shown in Data Report 6, more crashes also occur on Fridays.
- During the years considered, 1995 and 1996 had the most average trips. The weekly average for those years was 3.2 trips per day.

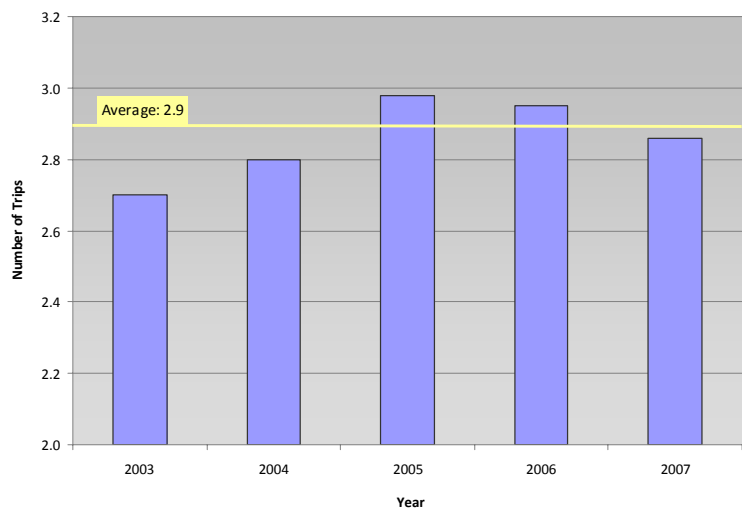
Figure 1: Average Trips per Weekday, New Castle County, 1995-2007



Trips per Year

- With an eye to the more recent past, the average number of daily trips taken has varied.
- Between 2003 and 2007, the most trips were taken in 2005. The average number of daily trips that year was just under 3.
- Following 2005, average daily trips fell marginally in both 2006 and 2007.

Figure 2: Average Daily Trips by Year, New Castle County, 2003-2007



Trips by Age and Income Cohort

Figure 3: Average Daily Trips by Age Cohort, New Castle County, 2003-2007

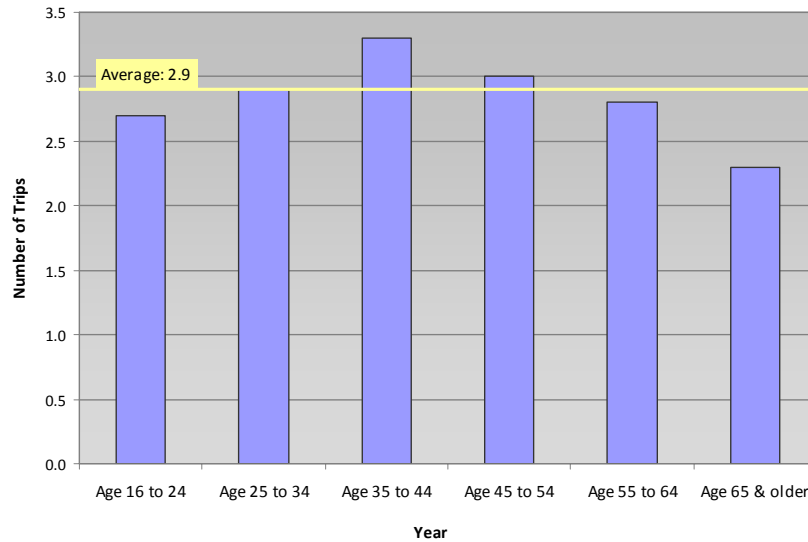
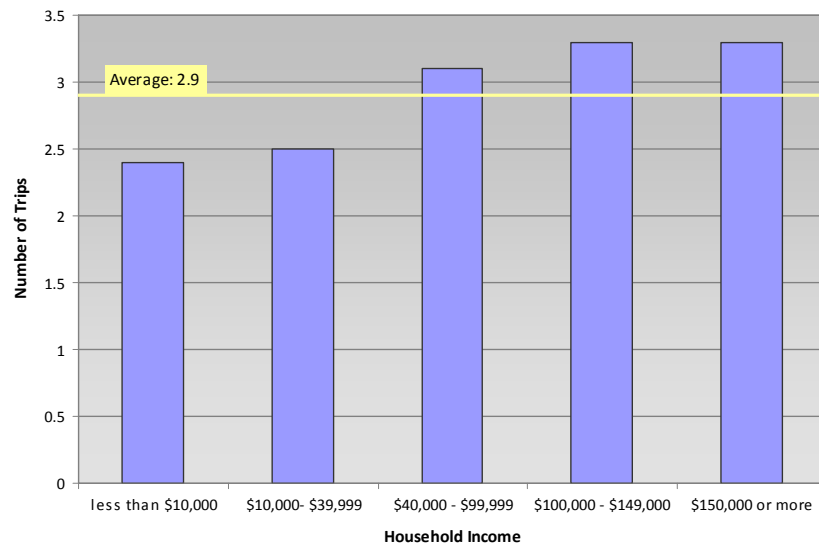
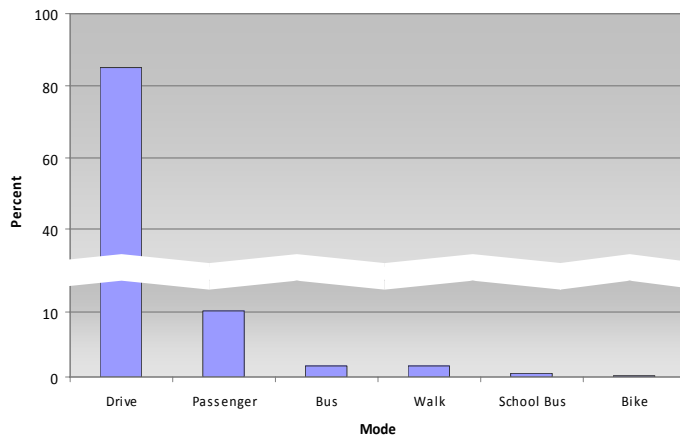


Figure 4: Average Daily Trips by Income Cohort, New Castle County, 2003-2007



- A person's age and income influence the number of trips he or she will make in a given day.
- Between 2003 and 2007, residents made fewer and fewer trips with both youth and age. Those between the ages of 35-44 boasted the most average trips per day, 3.3. Elderly drivers made the fewest average trips per day of any age cohort, 2.3.
- Higher household income also resulted in more trips during the five-year period. Lower-income residents took an average of one less trip a day than higher-income residents, 2.2 versus 3.2.

Figure 5: Travel Mode Split, New Castle County, 1997-2006



Mode Choice

- The car is the dominate method of travel in New Castle County. Between 1997 and 2006, 95% of all trips took place in a car—either as a driver or a passenger.
- Bus and walking trips in New Castle County outpace the state average.
- Cycling is the least popular choice for travelers. Only 0.2% of county residents utilized a bicycle as their primary means of travel during the decade.

Mode Choice by Income

- Like number of trips, income is a good predictor of mode choice in the county.
- The more an average resident's household earns, the more likely he or she is to drive a car. Cars were selected as the primary means of travel by close to 98% of those who earned more than \$100,000. The same was true for only 73% of those who earned less than \$10,000.
- Using public transit and walking were more popular for lower-income groups between 2001 and 2007.

Figure 6: Travel Mode by Income, New Castle County, 2001-2007

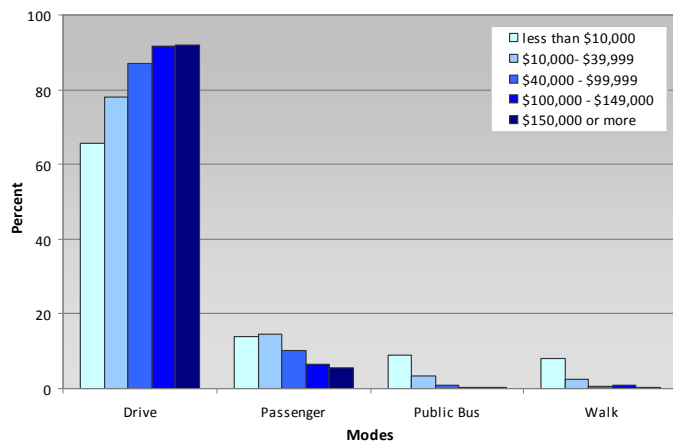
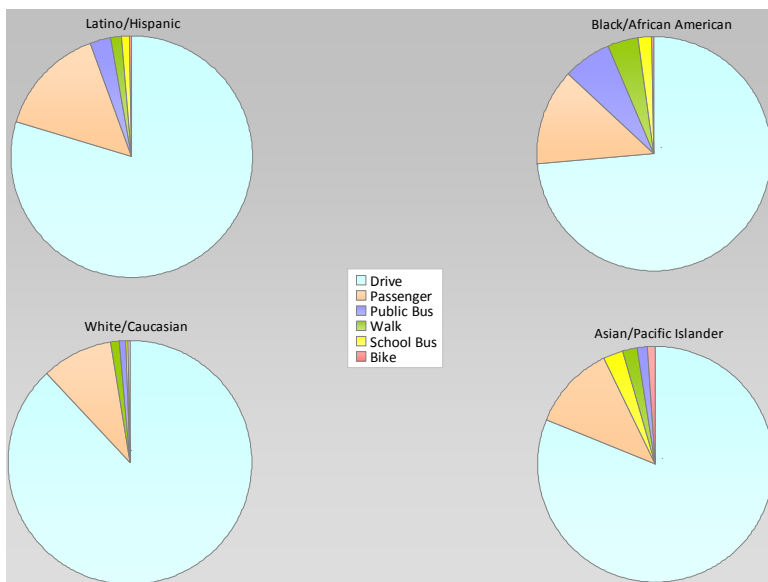


Figure 7: Travel Mode by Race/Ethnicity, New Castle County, 1995-2007



Mode Choice by Race/Ethnicity

- Racial and ethnic differences also emerge when mode choice is considered.
- Whites, the majority population, were the most likely to travel by car. Cars were utilized by over 97% of whites as a primary means of travel between 1995 and 2007.
- Blacks, the largest minority population, were the most likely to use a bus or walk. About 11% selected these modes. Hispanics at 4% were the next most likely.
- Asians, the smallest of the three minority groups, were more than twice as likely as other groups to use a bicycle. Just over 1% did so.

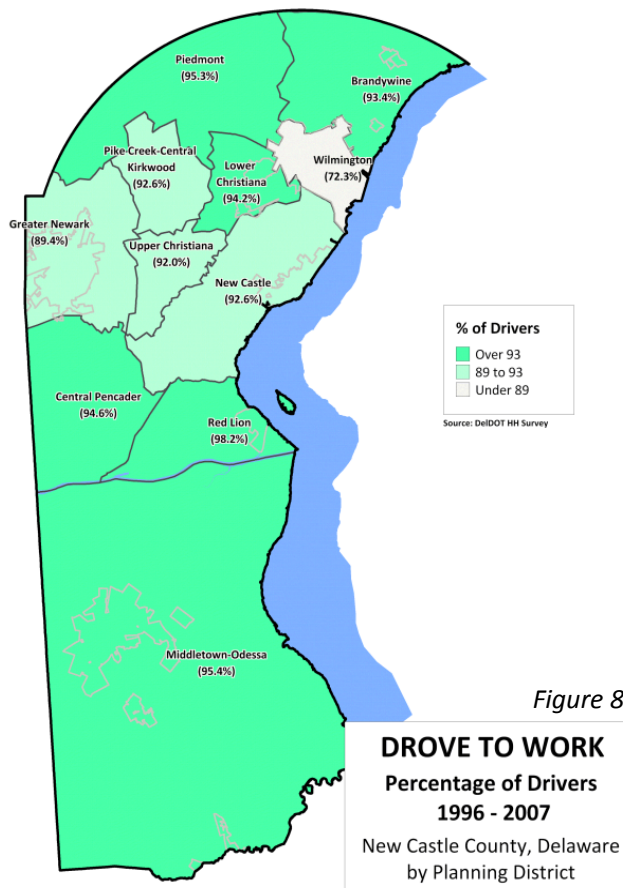


Figure 8

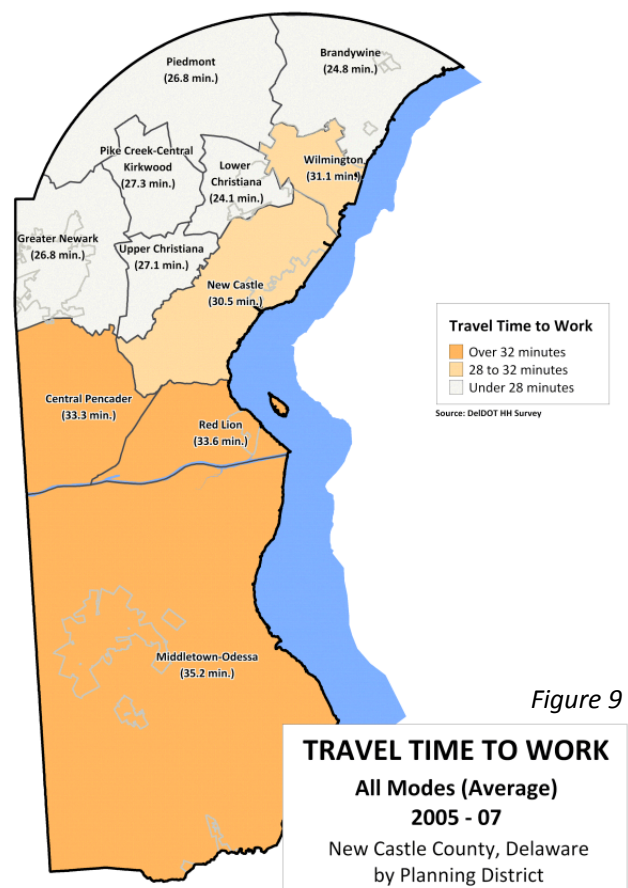


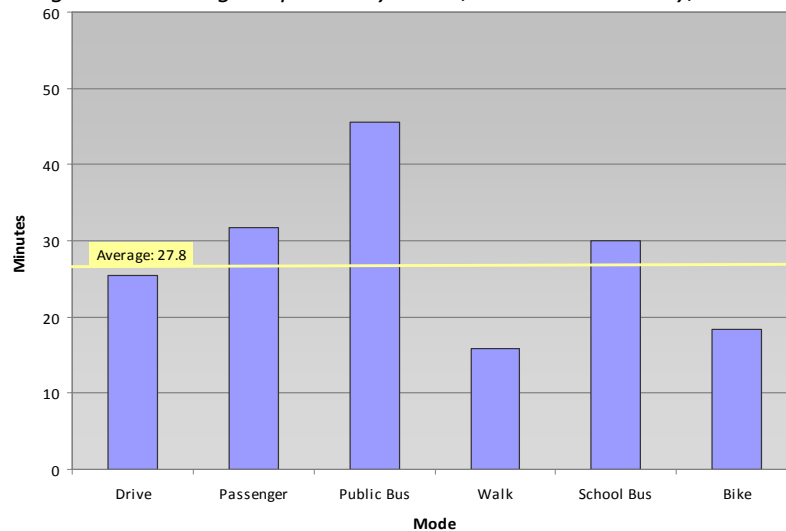
Figure 9

Mode Choice by Geography

- While the car is the most likely means of transportation to work across the county, it is less popular in areas with greater population density and transit infrastructure.
- As Figure 8 shows, a smaller percentage of residents drove to work in and around the cities of Wilmington, Newark and New Castle.
- Only 72% of Wilmington residents drove to work, by far the smallest percentage of any planning district. Residents of Red Lion were the most likely to drive to work. About 98% did so between 1996 and 2007.
- Residents of the southern half of New Castle County have higher travel times to work than those in the north, as illustrated in Figure 9. Between 2005 and 2007, average travel times topped 32 minutes in the southern planning districts.
- Lower Christiana boasted the fastest average travel time—24 minutes. Average travel times for Middletown-Odesa residents were eleven minutes more.
- Wilmington's travel time to work of about 31 minutes placed it, perhaps surprisingly, in the middle of the pack. Heavy public transit use by City residents pushes up overall travel times. As we will see on the following page, public transportation is the most time-consuming of all travel modes.

Travel Times by Mode

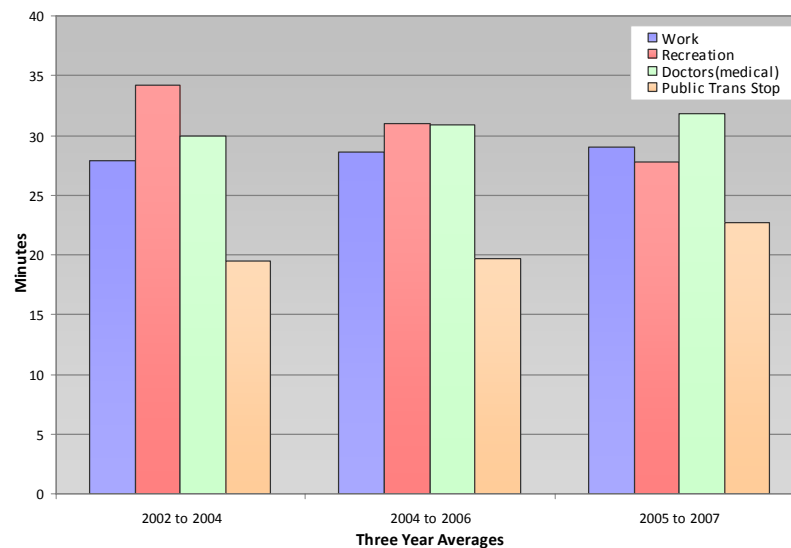
Figure 10: Average Trip Time by Mode, New Castle County, 2000-2007



- The average trip in New Castle County between 2000 and 2007 took nearly 28 minutes to complete.
- Depending on the travel mode used, trips often fell well below—or well above—that average.
- The average walking and cycling trip, for example, took just under 20 minutes during the period considered.

Travel Times by Destination

Figure 11: Trends in Average Travel Time by Destination, New Castle County, 2002-2007



- Overall, the average trip time in New Castle County has remained about 27 minutes between 2002 and 2007.
- When broken out by destination, however, trends in trip times emerge.
- Average trips to work, the doctor's office and public transit stops increased by one to two minutes during the period.
- Recreational trips have decreased, and rather more significantly. These trips sunk by about six and a half minutes between 2002 and 2007.

Trends in Trip Modes by Destination

Figure 12: Trip Mode by Destination, 1999-2002

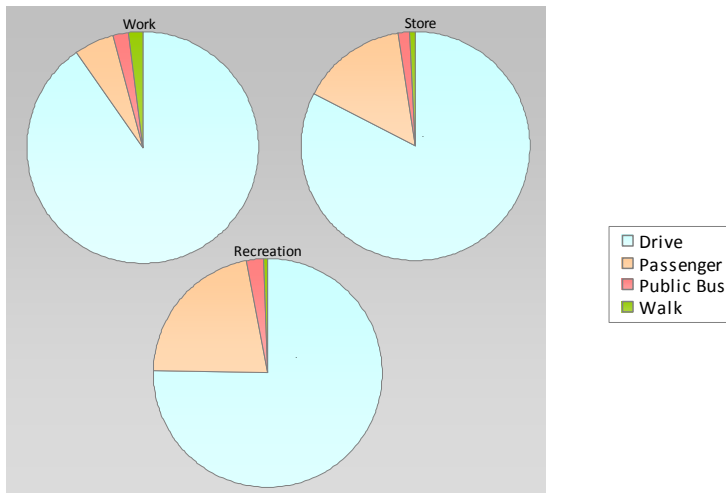
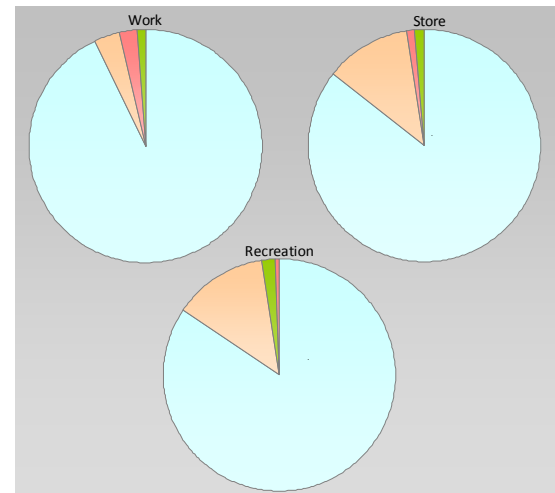


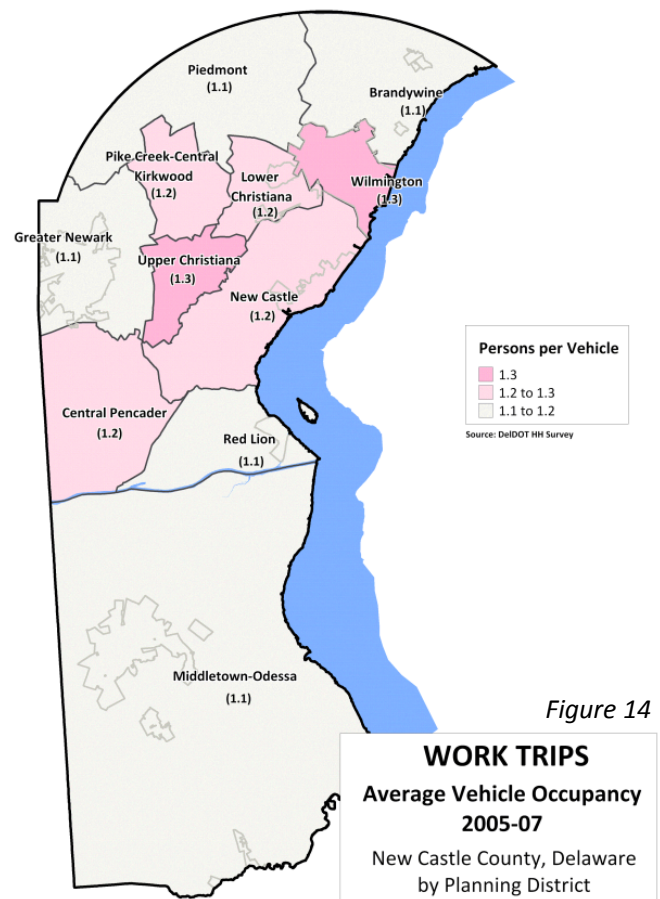
Figure 13: Trip Mode by Destination, 2003-2007



- A higher percentage of New Castle County residents drove to key destinations between 2003-2007 than in previous years.
- About two-percent more residents chose to drive to work and stores since 2003 than use other modes. Public bus trips to these destinations also increased by about a half of one-percent.
- More dramatically, driving trips to recreational activities increased by ten percentage points since 2003.

Average Vehicle Occupancy by Geography

- Between 2005 and 2007, average vehicle occupancies for work trips were highest in a belt of planning districts—Wilmington to Central Pencader.
- These areas share both greater densities and better access to major highways than other districts.
- Wilmington and Upper Christiana showed the highest work trip occupancy at 1.3 persons per vehicle.
- Compared to other destinations, trips to work averaged the fewest average persons per vehicle.
- For example, trips to school, restaurants, and pick-ups averaged about two persons per vehicle in nearly all districts.
- School trips in Central Pencader boasted the highest average vehicle occupancy—2.6 persons per vehicle—for any destination in any planning district.



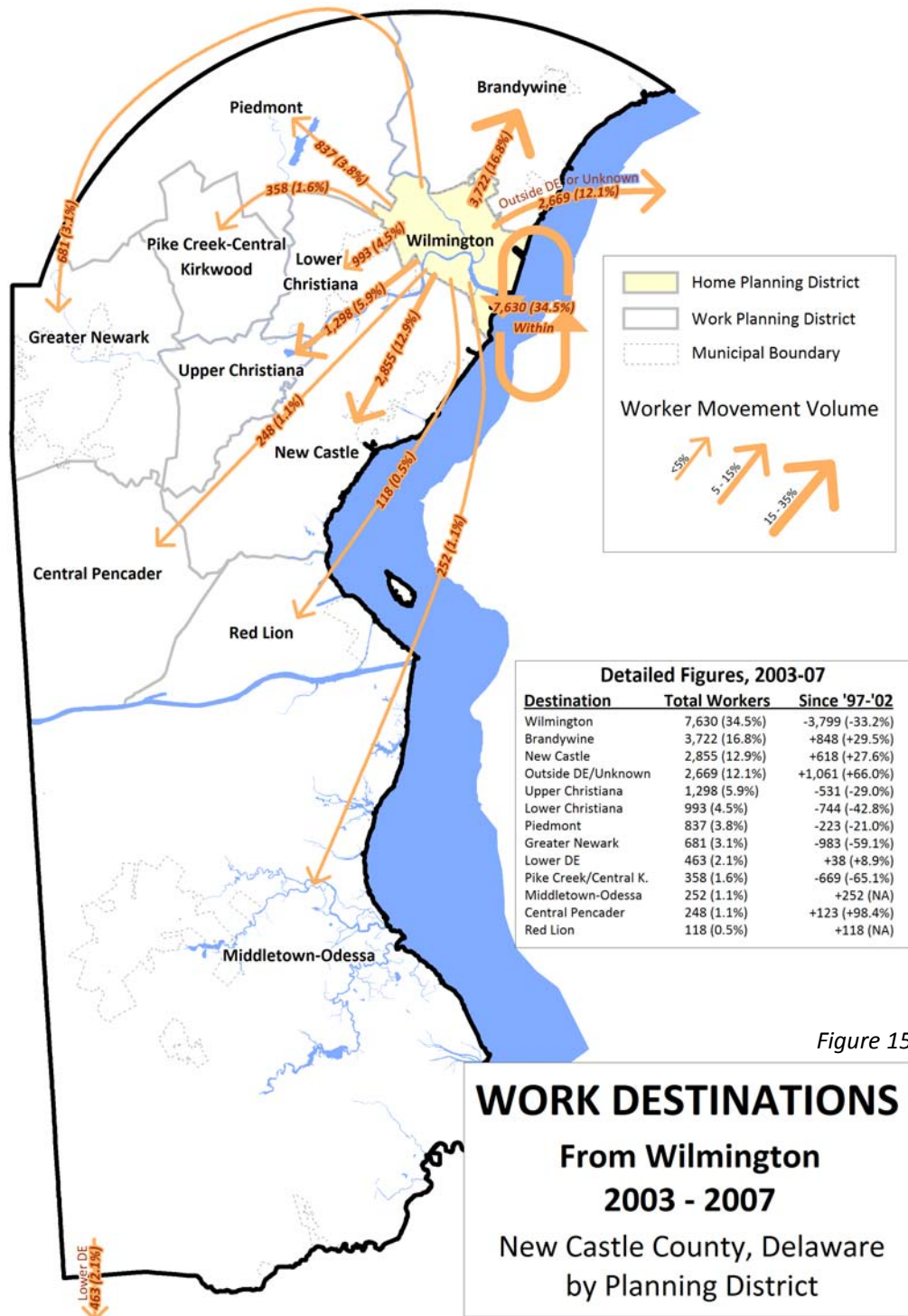


Figure 15

Journey to Work

- The following series of maps illustrates the flow of workers from their home planning districts.
- Over one-third (7,600 or 35%) of Wilmington's working population live and work inside the city—the most of any planning district.
- Still, far fewer (3,800) workers both live and work in Wilmington than between the years 1997 and 2002.
- About 6,500 (30%) Wilmington workers commute to either Brandywine or New Castle each day.

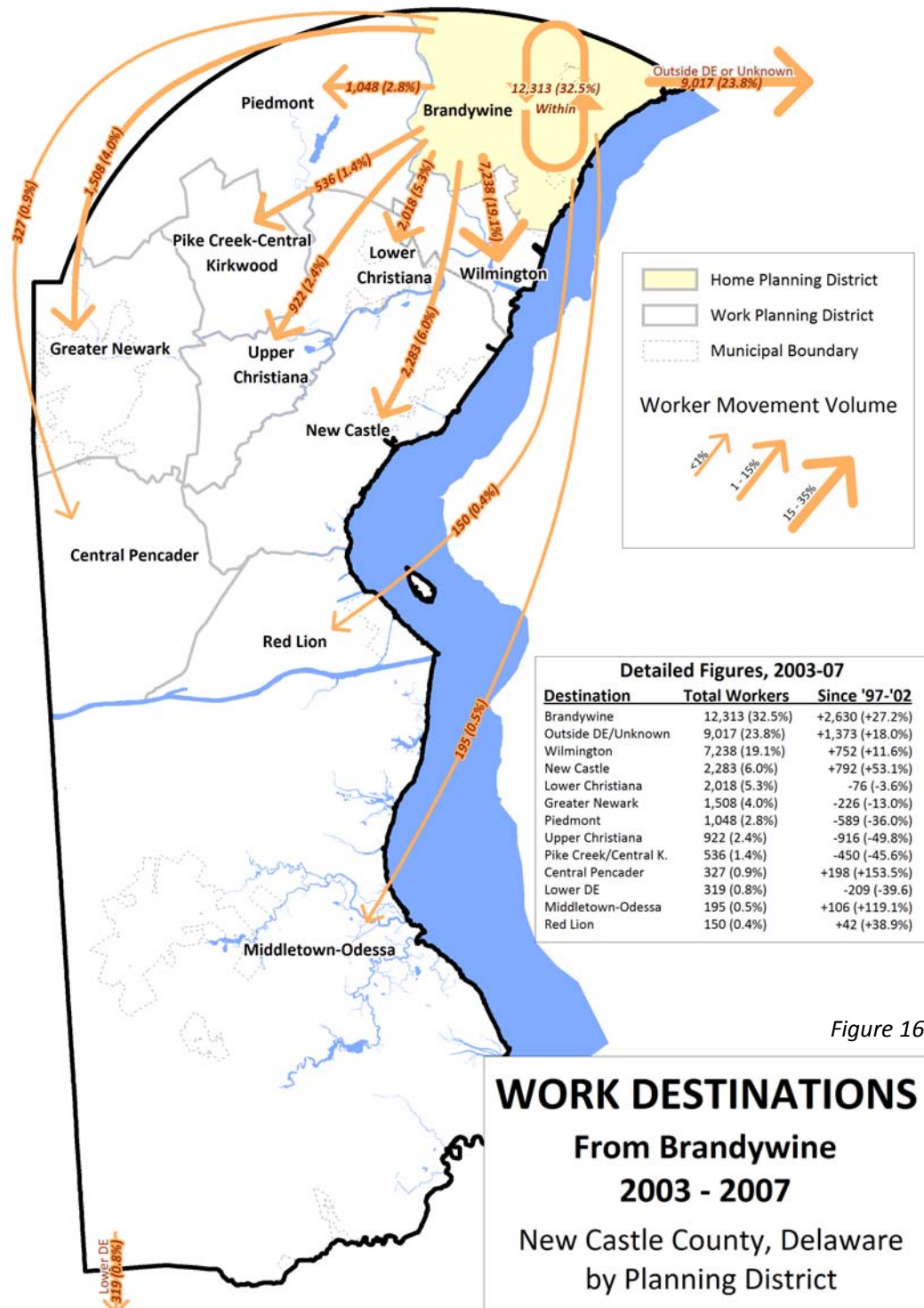


Figure 16

- Over half (21,300 or 56%) of Brandywine's workers either work in Brandywine or outside of Delaware.
- Most of the remainder (7,200 or 19%) commute to Wilmington.
- Commutes within Brandywine, outside of Delaware, and to Wilmington have become more popular since 2003.

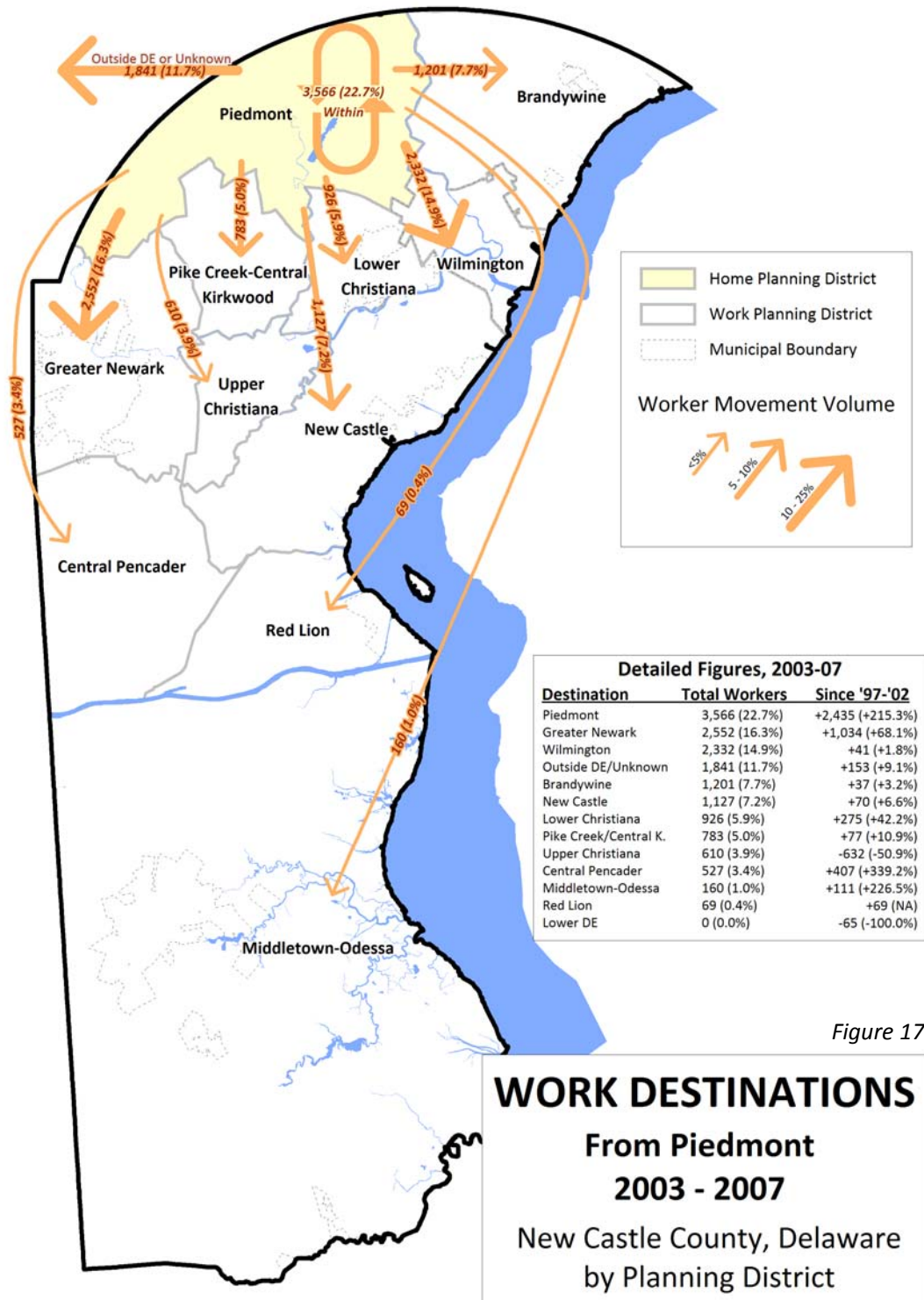


Figure 17

- Half (50%) of Piedmont's workers commute into bordering districts, such as Greater Newark.
- About 3,500 (23%) others work within Piedmont.
- In just about every district, the flow of workers from Piedmont has seen growth since 2003.

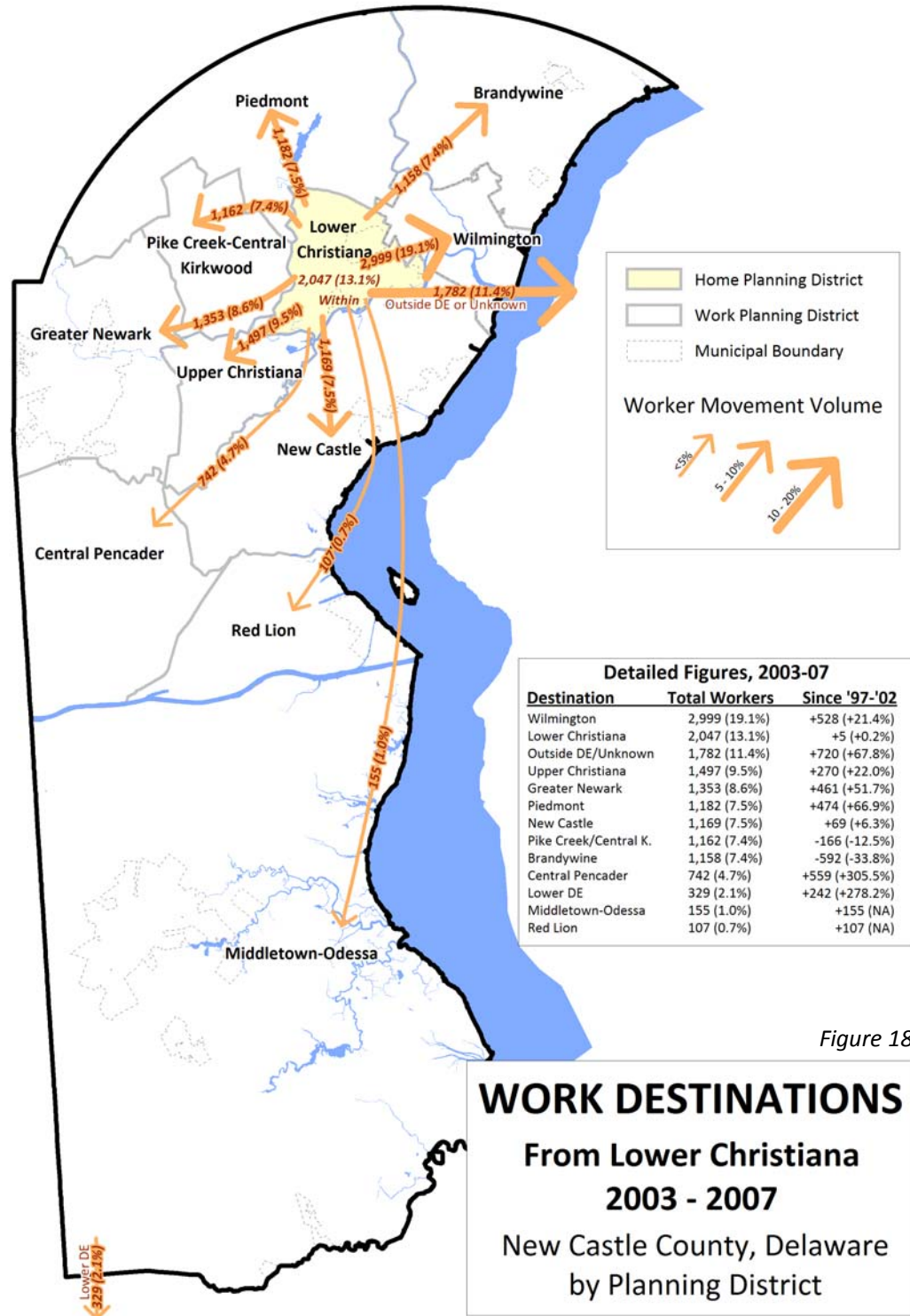


Figure 18

- Like Piedmont, about half (51%) of Lower Christiana's workers also commute into bordering districts.
- More workers from Lower Christiana commute to Wilmington (3,000 or 19%) than any other destination.
- Central Pencader has witnessed a spike in commuters (over 500 or a 300% increase) from Lower Christiana since 2003.

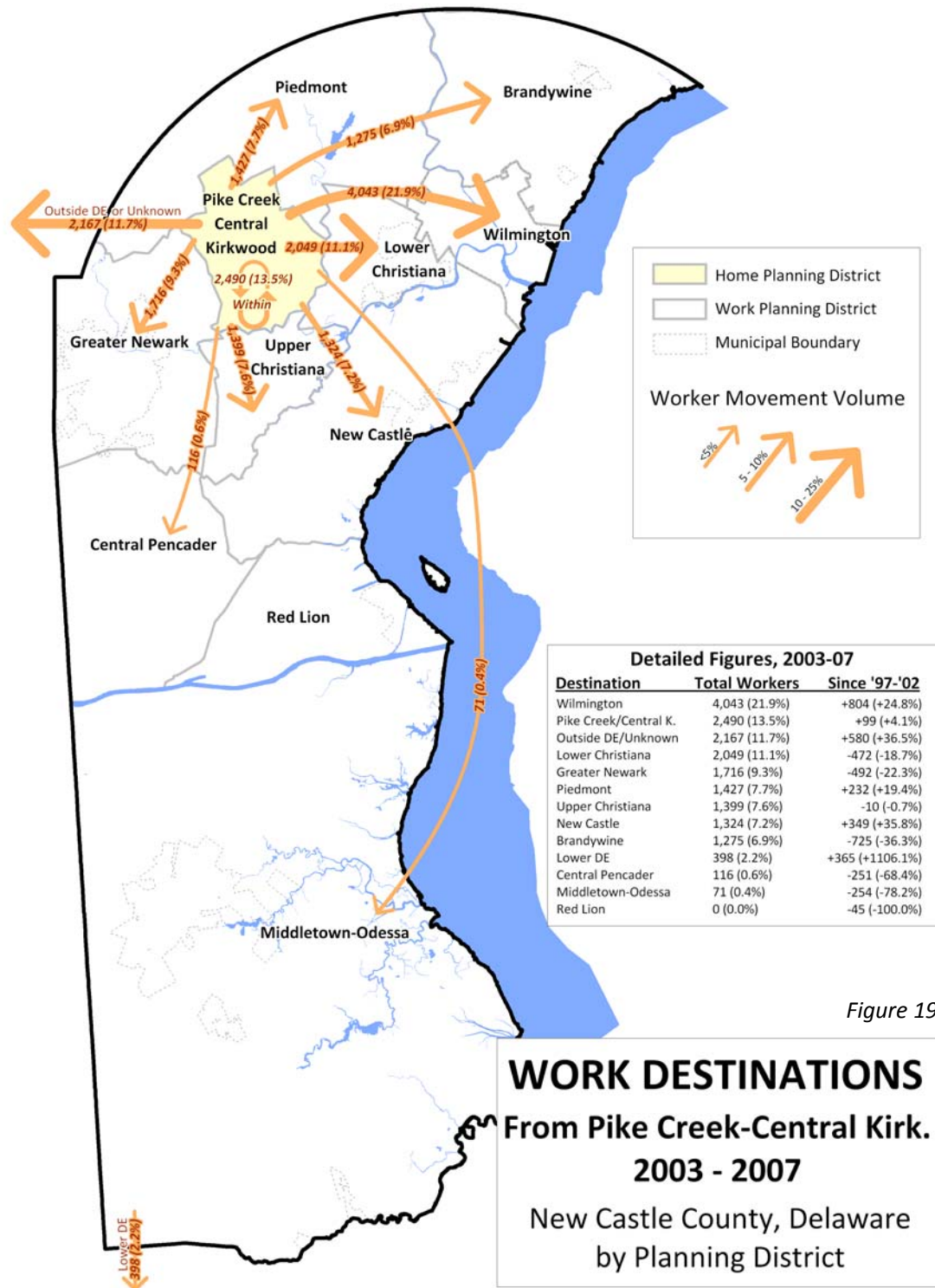


Figure 19

- Pike Creek-Central Kirkwood sends a higher percentage of its workers to Wilmington (22%) than any other planning district.
- Other workers commute outside of Delaware, within the district, or to one of the other northern districts.
- Since 2003, over 700 fewer Pike Creek-Central Kirkwood workers commute to Brandywine, a decline of 36%.

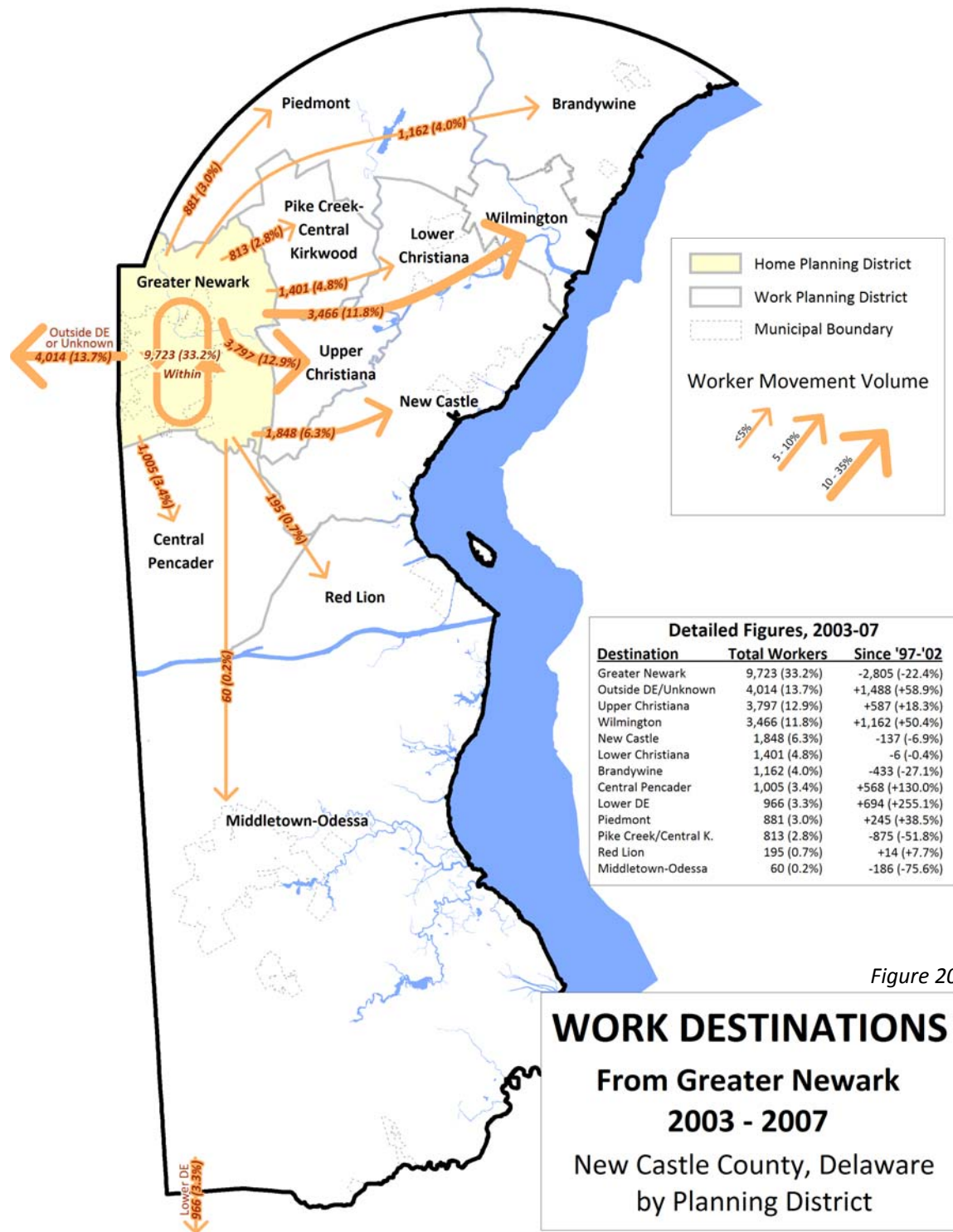


Figure 20

- Though decreasing, one-third (9,700 or 33%) of Greater Newark's workers commute within the district.
- Since 2003, a growing number of workers (over 3,000) now commute outside of Delaware, to Upper Christiana, or to Wilmington.
- Greater Newark's workers who commute to Kent or Sussex Counties in Delaware (over 900) has increased by 255% since 2003.

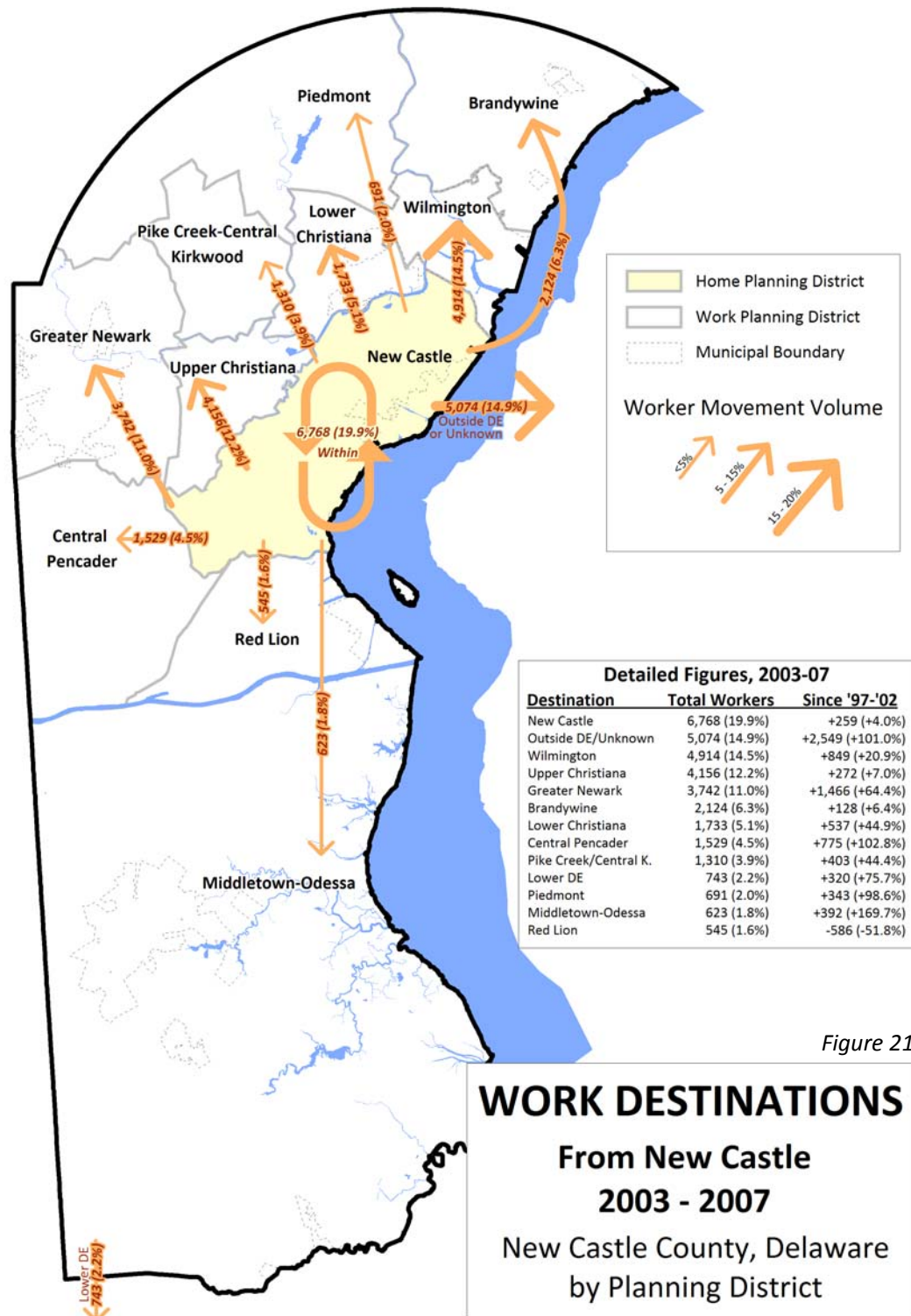


Figure 21

- ° One-fifth (20%) of New Castle's workers both live and work in their planning district.
- ° Most others commute outside of Delaware, or to bordering districts to its north, such as Wilmington.
- ° Since 2003, worker flows have increased from New Castle to every other district except Red Lion.

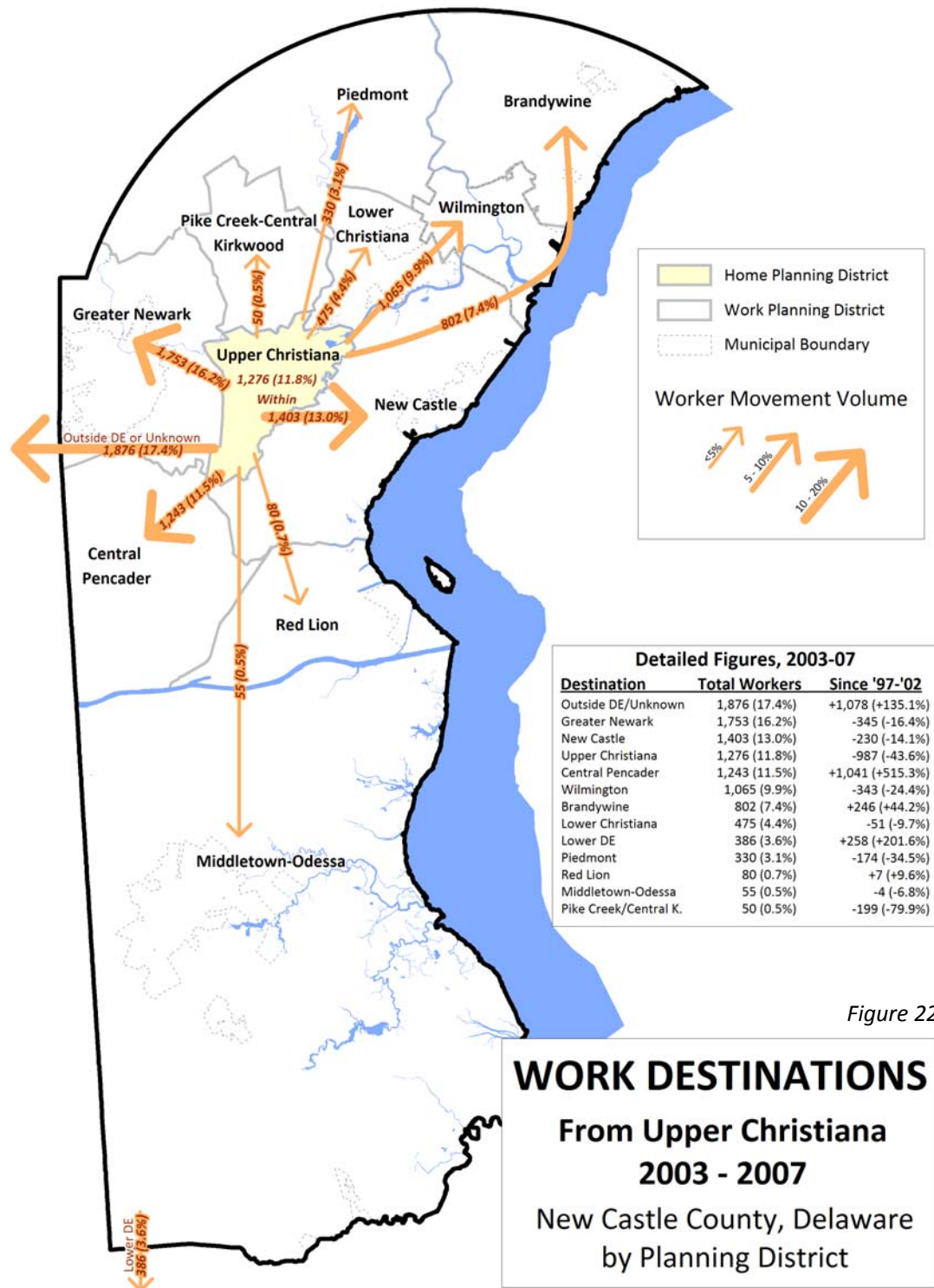


Figure 22

- About half (47%) of Upper Christiana's workers commute outside of Delaware or to Greater Newark or New Castle.
- Since 2003, nearly 1,000 fewer workers commute within the district, a decline of 44%.
- Growth since 2003 has been especially strong in flows to Central Pencader, with 1,000 new commuters, a 515% increase.

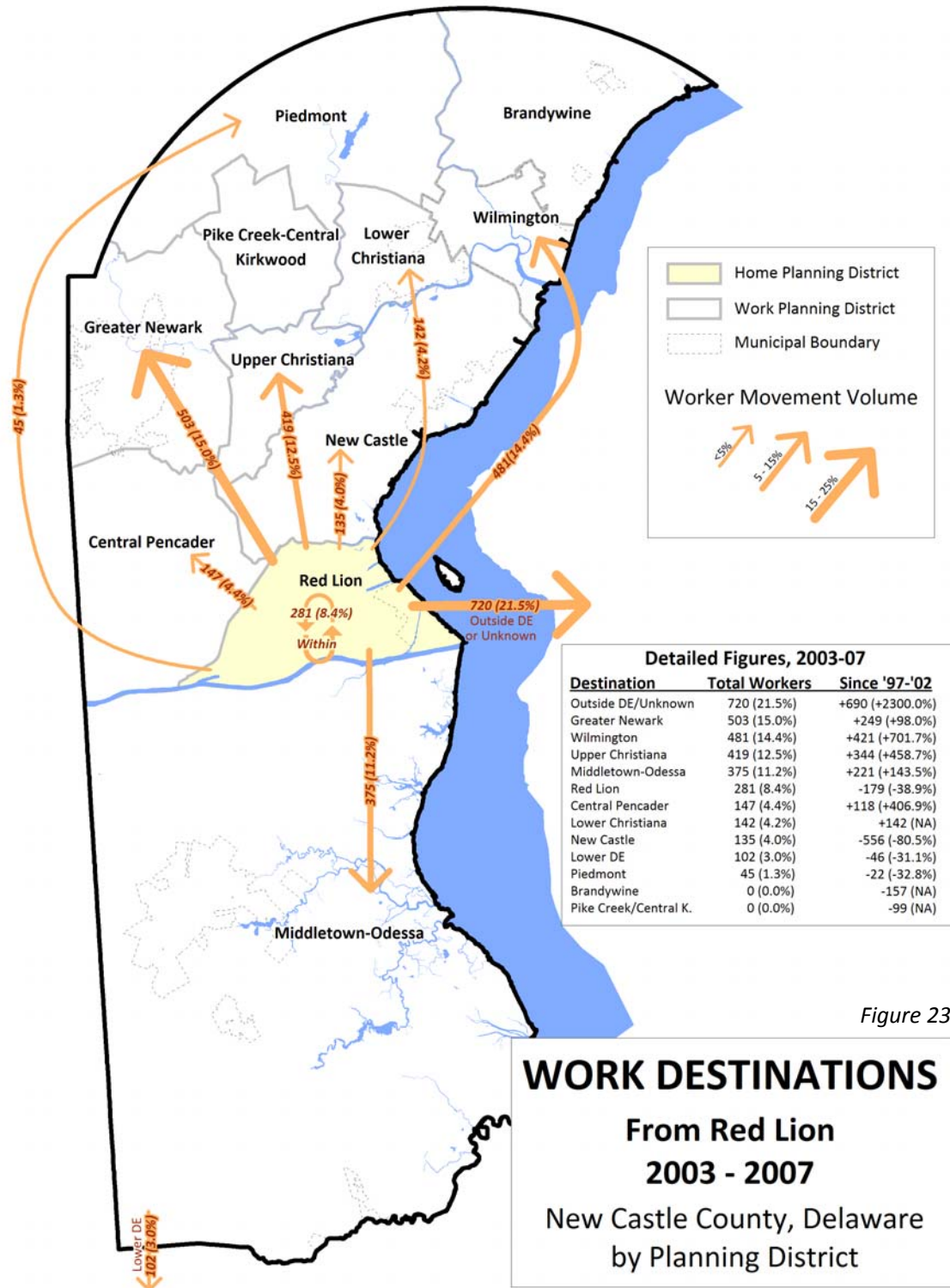


Figure 23

- A higher percentage of Red Lion's workers (22%) commute outside of Delaware than any other planning district.
- Many of the rest (42%) commute to Greater Newark, Wilmington, or Upper Christiana—bypassing neighboring districts.
- About 180 fewer workers commute within Red Lion since 2003, a decline of 39%.

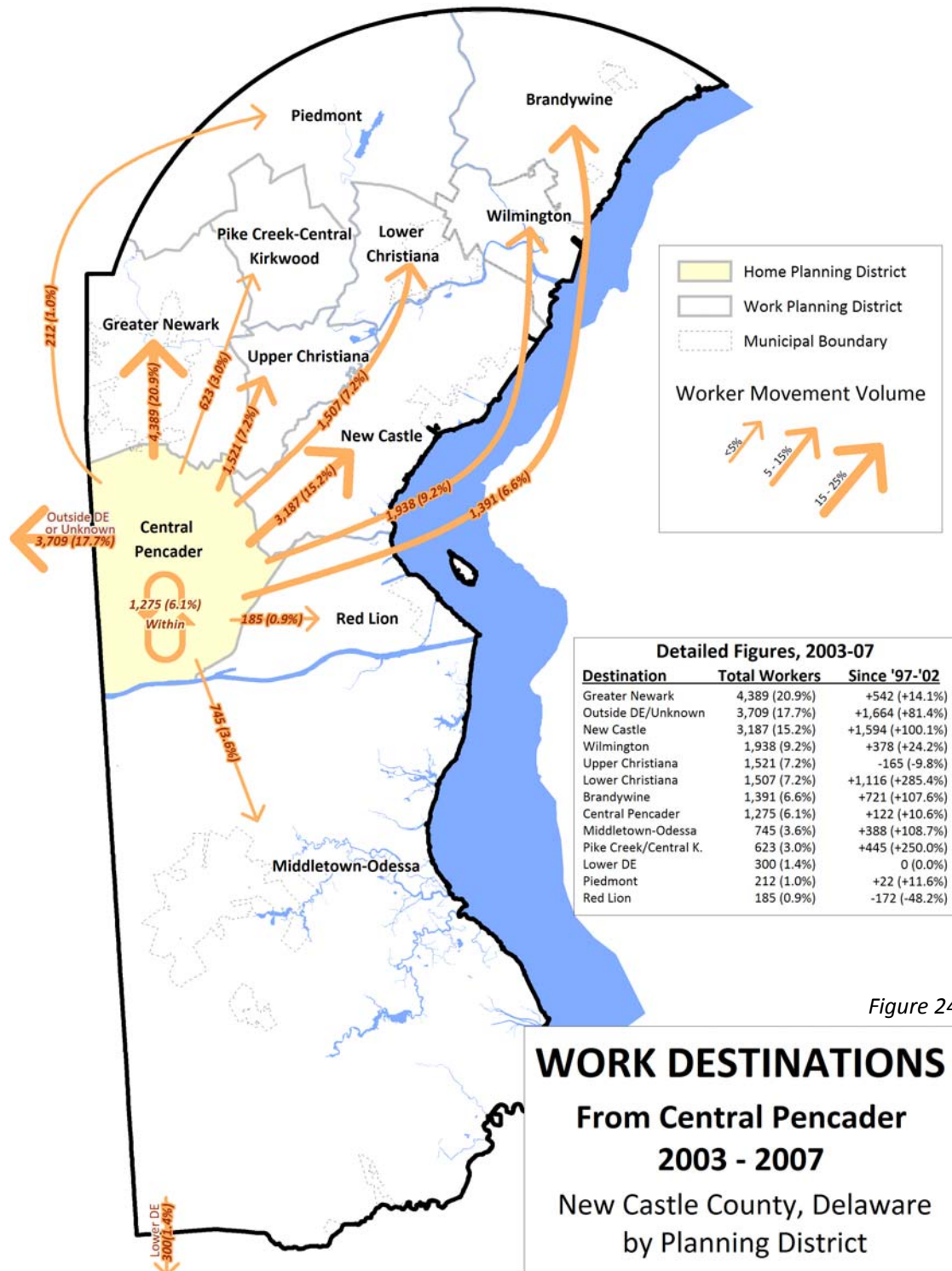


Figure 24

- Over half (54%) of Central Pencader's workers commute to Greater Newark, New Castle, or outside of Delaware.
- While increasing, only 6% live and work in Central Pencader—the lowest figure for any planning district.
- Since 2003, 2,700 more workers now commute to Lower Christiana or New Castle—increases of 285% and 100%, respectively.

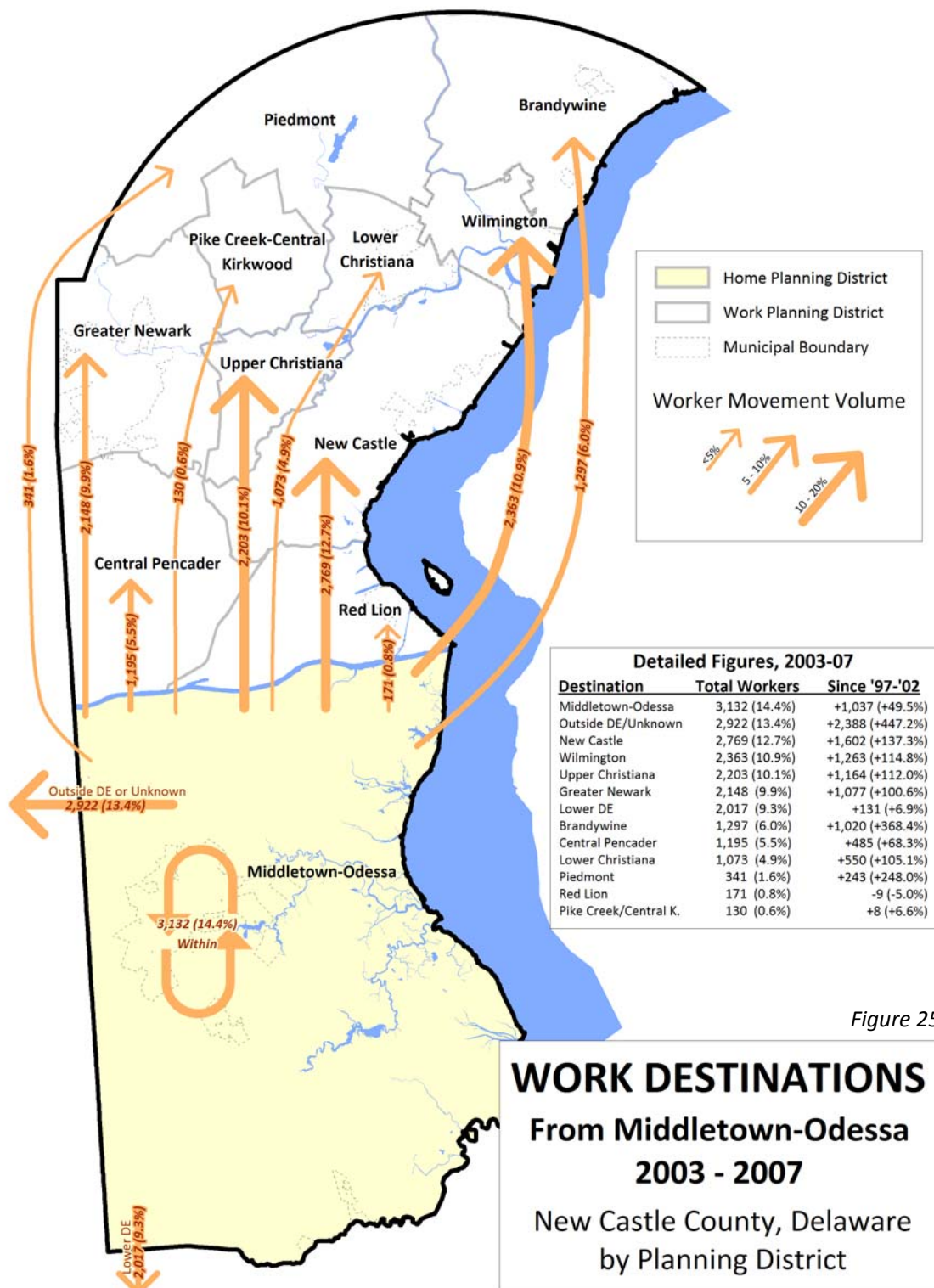


Figure 25

- Like districts in the north-central portion of the county, worker flows from Middletown-Odessa show great diversity.
- Over a quarter (28%) of commuters either remain within the district or work outside of Delaware.
- As far as other districts, New Castle, Wilmington and Upper Christiana receive one-third (34%) of Middletown-Odessa commuters.

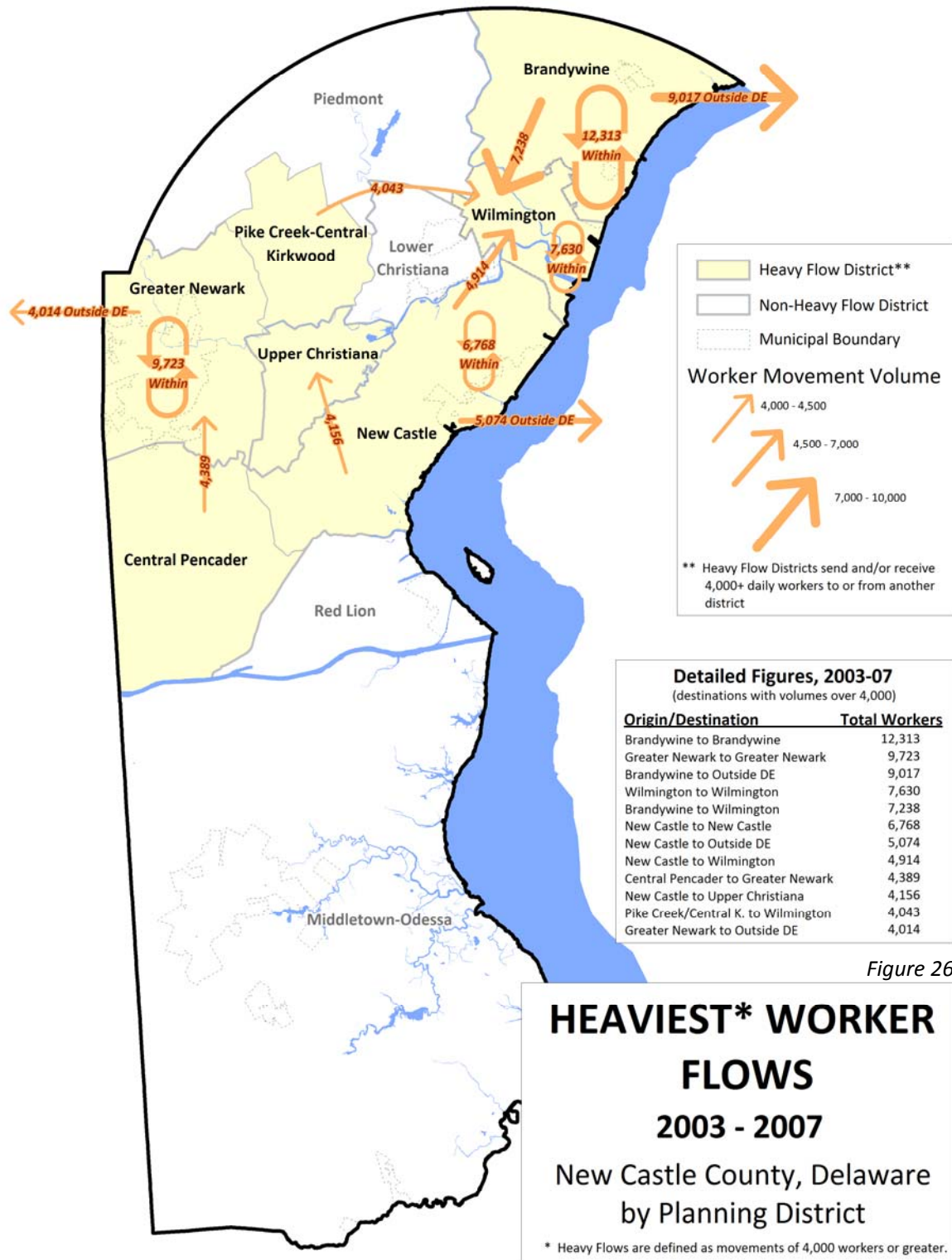
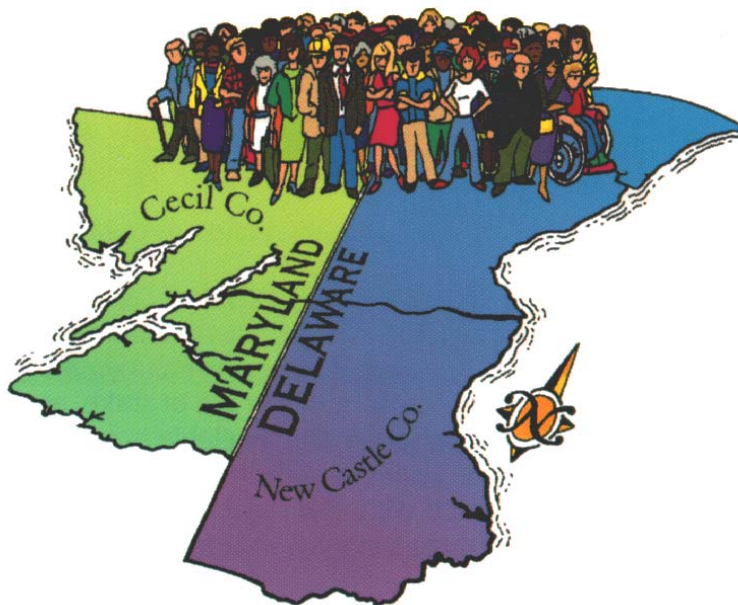


Figure 26

- The heaviest of worker flows are mapped above. These flows comprise close to 35% of all worker commutes.
- Of the flows depicted, the heaviest are either internal worker movements within a planning district or movements outside the state.
- Wilmington is the recipient of three heavy external worker flows—Brandywine, New Castle and Pike Creek-Central Kirkwood.

Journey to Work, Overall Observations

- As the previous map series showed, many workers in New Castle County both live and work in the same planning district. This is most common in northern districts, such as Wilmington and Brandywine. However, we also showed that since 2003, these figures have been declining in districts like Wilmington and Greater Newark—two “Centers” identified for greater transportation funding in our 2030 Regional Transportation Plan.
- Worker flows from one district to another vary considerably. In Middletown-Odessa, for example, 81% of workers commute to seven different destinations. In Brandywine, 75% of workers commute to only three distinct districts. This correlates with the travel time data we explored earlier in the report. Generally, the heaviest flows of workers move into bordering districts. This is not always the case, however. The top four destinations for Red Lion’s workers did not border their home district. Similarly, a strong flow of Greater Newark’s workers (about 3,500, or 12%) travel each day to Wilmington, across at least two other planning districts.



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The Wilmington Area Planning Council (WILMAPCO) is a Metropolitan Planning Organization serving New Castle County, DE and Cecil County, MD. Our mission is to serve the residents of our region by creating the best possible transportation plan. This series of data reports summarizes key data to allow both residents and decision-makers to better understand changes within our region. This document was created by the WILMAPCO Demographics and Data Subcommittee. For more information on this and other data reports, please visit our website at: www.wilmapco.org/data.

Other WILMAPCO Data Reports

Report #1: Regional Population Changes
1980-2000, September 2004

Report #2: Changes in Regional Population & Household Characteristics 1980-2000, December 2004

Report #3: Analysis of Commuter Flows to and from the WILMAPCO Region 1990-2000, July 2005

Report #4: Regional Population Changes: 2000-2030, January 2006 (updated May 2007)

Report #5: Employment: 1990-2004, July 2006

Report #6: Crash Data: 2000-2006, September 2008

Report #7: Travel Times: 2000-2007, December 2008

Report #8: Transit Trends: 2000-2007, July 2009