# Past and Future population trends

#### Jan Vink Cornell Program on Applied Demographics

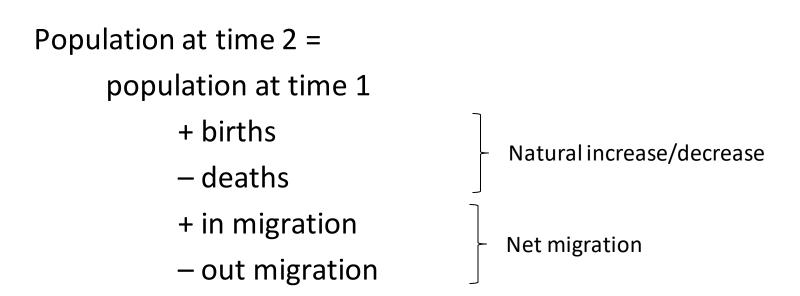
jkv3@cornell.edu





## **Population change**

### **Demographic balancing equation**



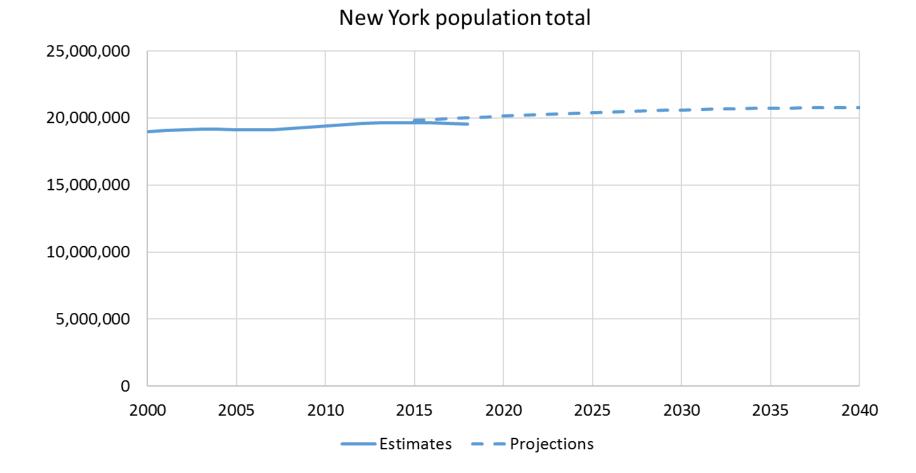
### Population estimates at Census Bureau

- County level
- Start with latest Census counts
- Cohort Component model
  - Components of population change
    - Births
    - Deaths
    - Migration
  - Use of administrative records from
    - Vital statistics
    - Successive tax returns and Medicare enrollment
  - Supplemented with Survey data

# Population projections at Cornell

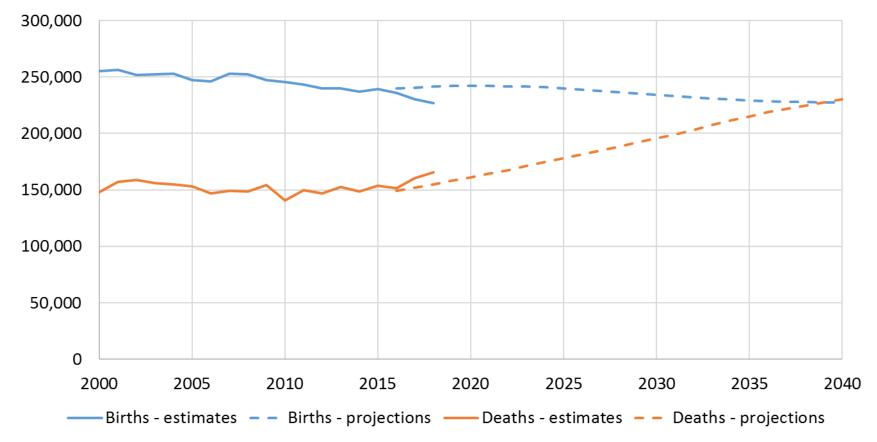
- County level
- Start with population estimates
- Cohort Component model
  - Components of population change
    - Births
    - Deaths
    - Migration
  - Age specific rates for all, projected rates based on recent averages

## New York total population (2000-2040)



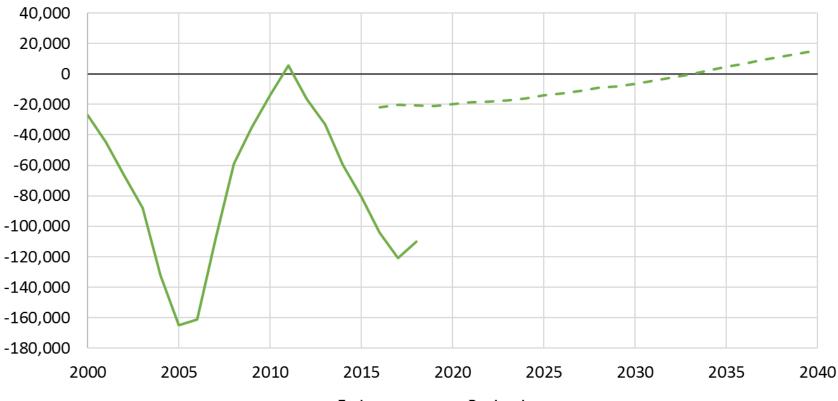
#### Births and Deaths, NY, 2000-2040





#### Net migration, NY, 2000-2040

Net migration



- Estimates - - Projections

#### Population pyramids

85+ 85+ 80-84 80-84 75-79 75-79 70-74 70-74 65-69 65-69 60-64 60-64 55-59 55-59 50-54 50-54 45-49 45-49 40-44 40-44 35-39 35-39 30-34 30-34 25-29 25-29 20-24 20-24 15 - 1915 - 1910 - 1410 - 145-9 5-9 0-4 0 - 4800 000 600 000 400 000 0 200 000 400 000 600 000 800 000 200 000 Values

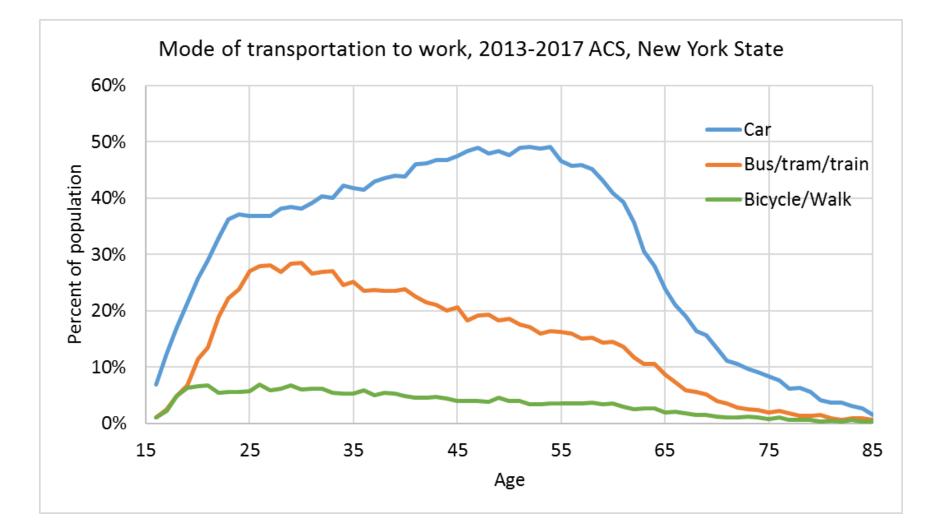
New York

July 1, 2018, Total

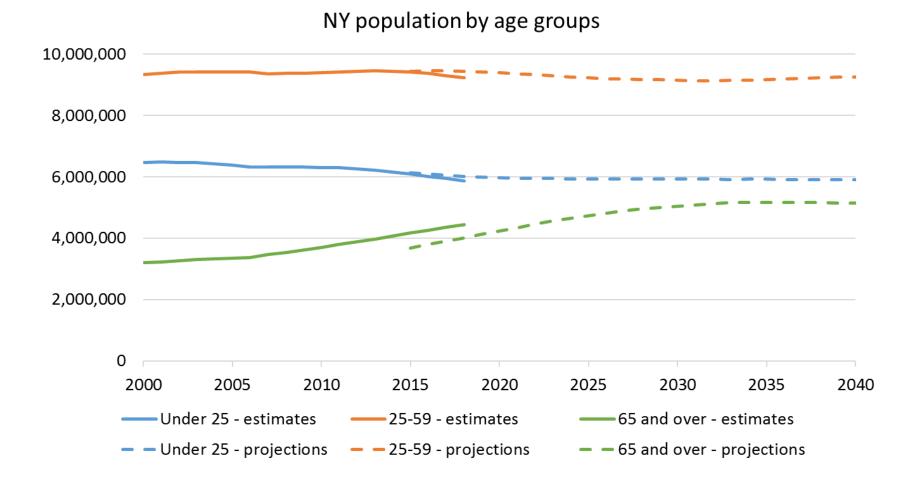
Series (click to toggle)

🔵 Male 🛛 🔵 Female

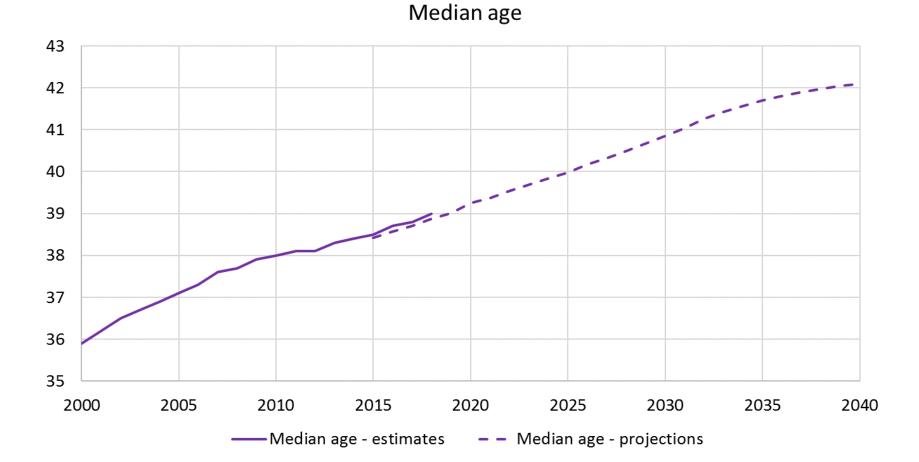
### Mode of transportation by age



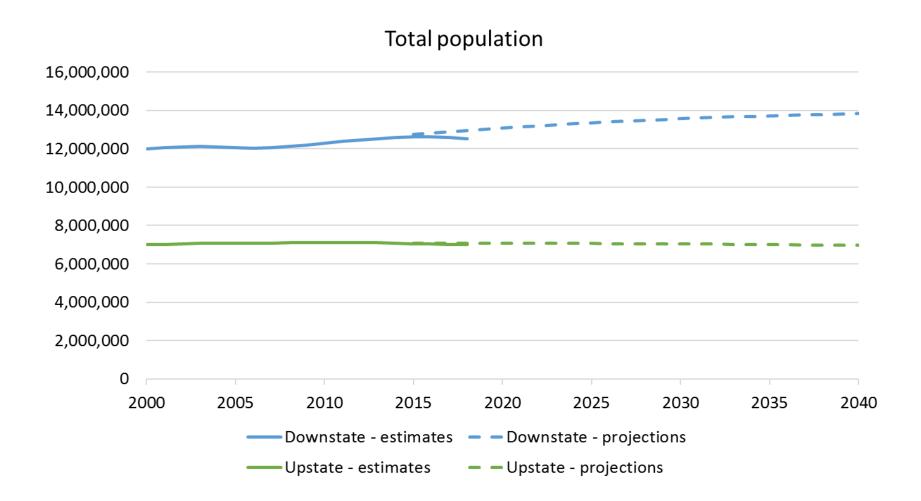
# NY population by age groups (2000-2040)



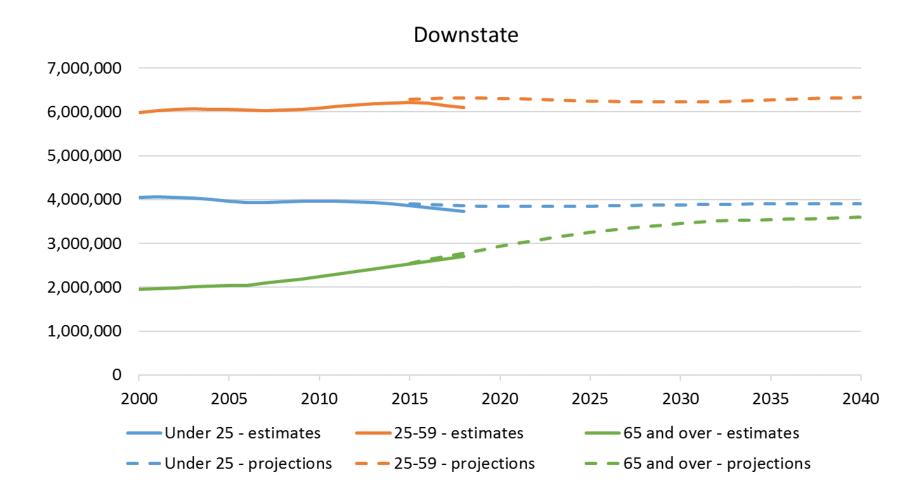
#### NY state median Age 2000-2040



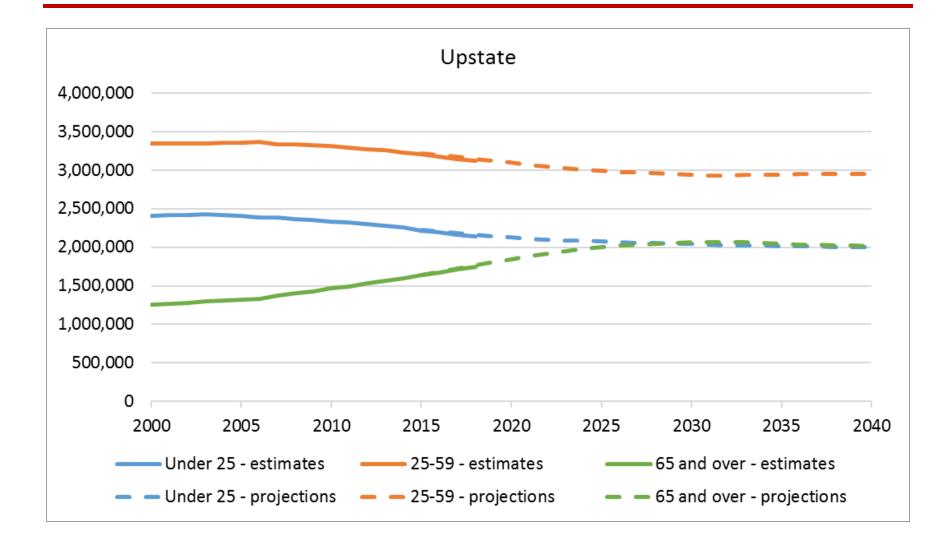
## Total population, Up- and Downstate



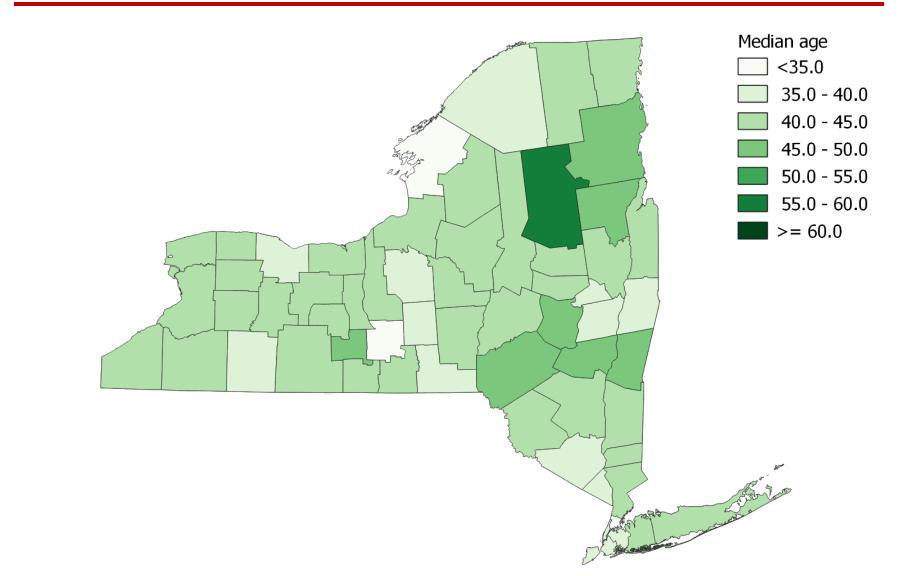
#### Downstate population, agegroups



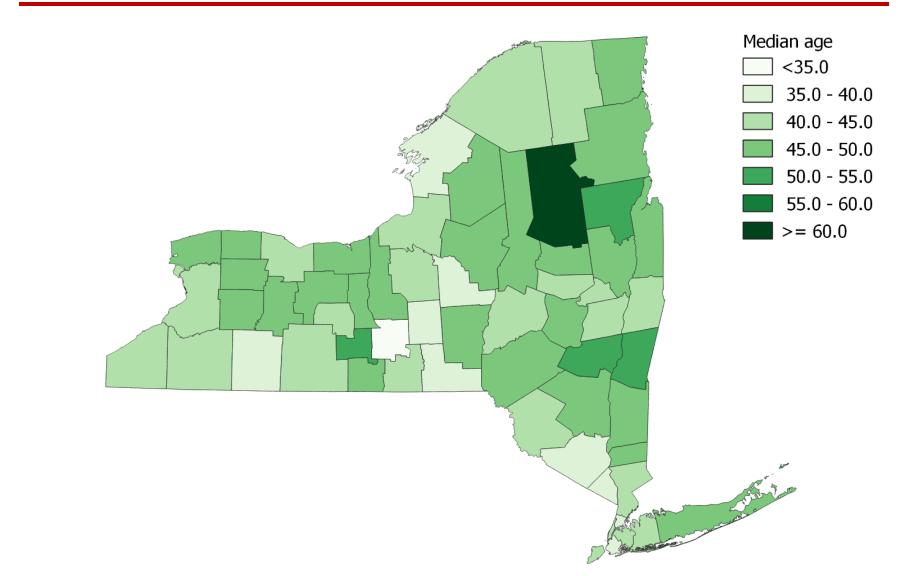
#### Upstate population, age groups



### Estimated Median Age (2018)



# Projected Median Age (2040)



#### Resources at Census Bureau

- Data retrieval
  - <u>https://www.census.gov/data/data-tools/american-factfinder.html</u>
  - <u>https://data.census.gov/cedsci/</u>
- Population estimates
  - <u>https://www.census.gov/programs-surveys/popest.html</u>

#### **Resources at Cornell**

• Program on Applied Demographics

Home Page	https://pad.human.cornell.edu
County trends	https://pad.human.cornell.edu/counties/trends1geo.cfm
Projections	https://pad.human.cornell.edu/counties/projections.cfm
County profiles	https://pad.human.cornell.edu/profiles/index.cfm
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Email: padinfo@cornell.edu Twitter: @PADCornell