



Rockland County Existing Conditions

Tappan Zee Bridge Mass Transit Task Force Meeting

February 22, 2013

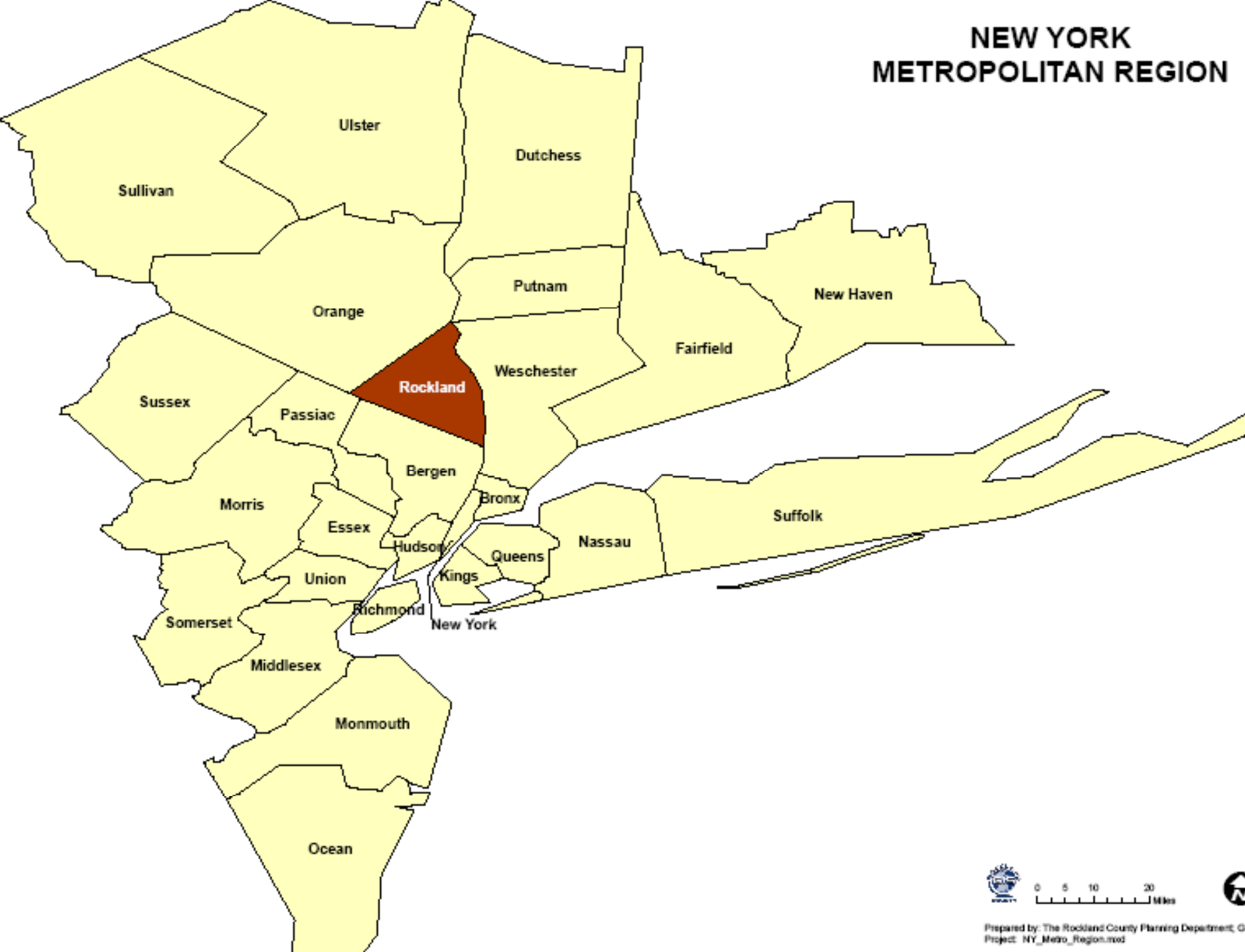
Hon. C. Scott Vanderhoef, County Executive

Thomas B. Vanderbeek, P.E., Commissioner

County of Rockland

Departments of Planning & Public Transportation

NEW YORK METROPOLITAN REGION

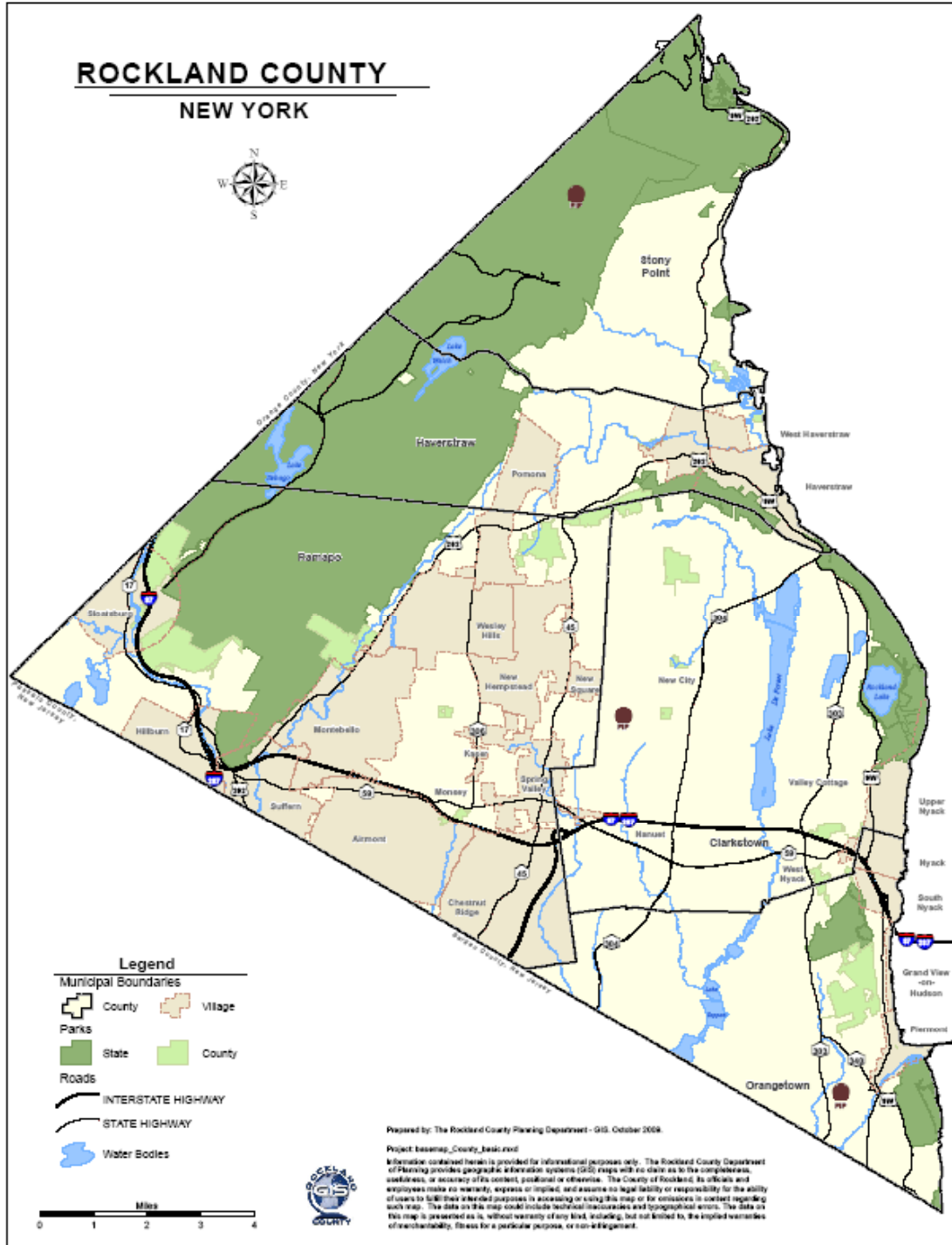


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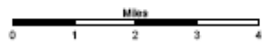
ROCKLAND COUNTY

NEW YORK



Legend

- Municipal Boundaries
 - County
 - Village
- Parks
 - State
 - County
- Roads
 - INTERSTATE HIGHWAY
 - STATE HIGHWAY
- Water Bodies



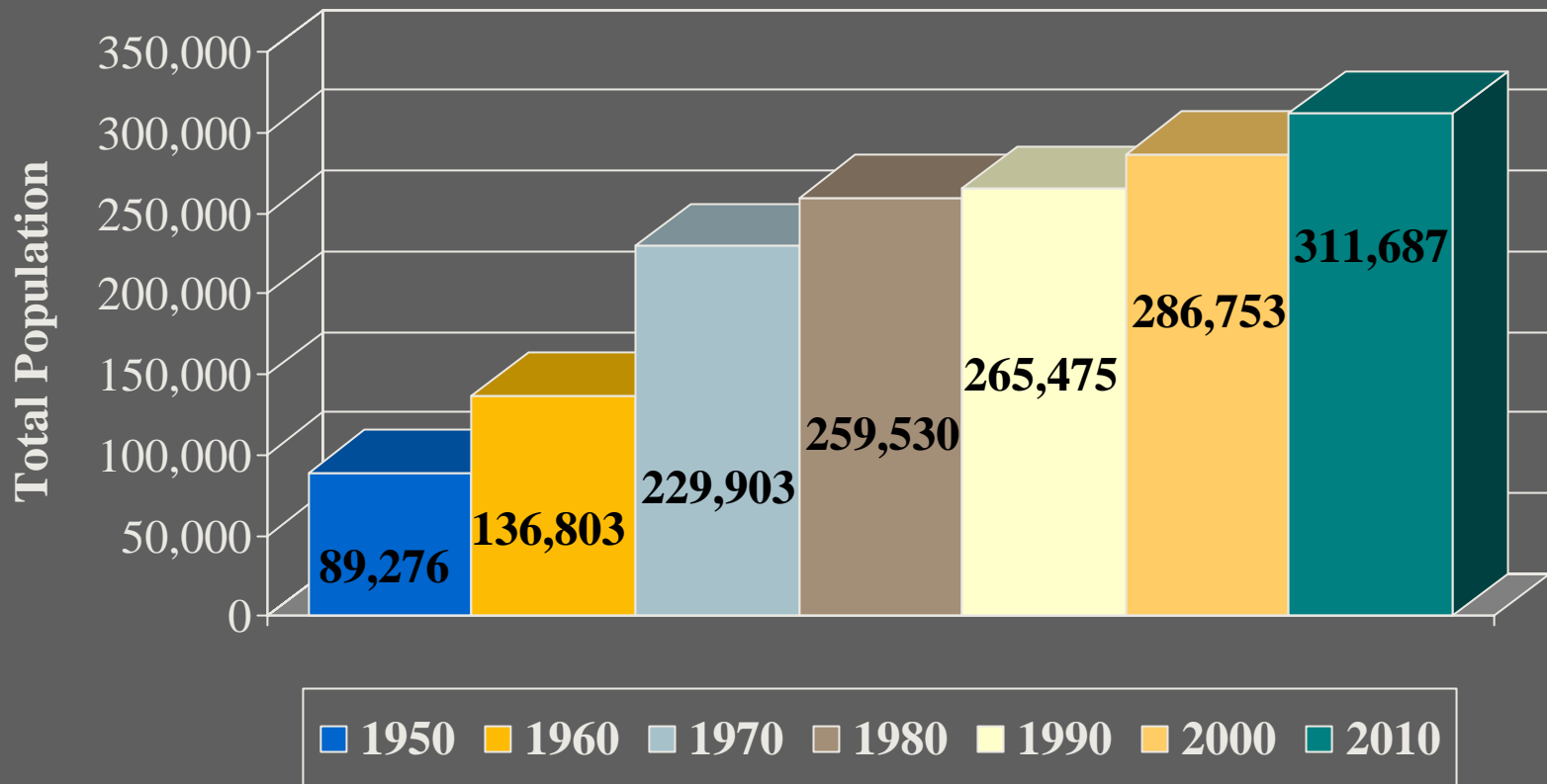
Prepared by: The Rockland County Planning Department - GIS, October 2008

Project: basemap_County_basemap
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Historical Perspective Rockland County's Population

Historical Perspective Rockland County's Population

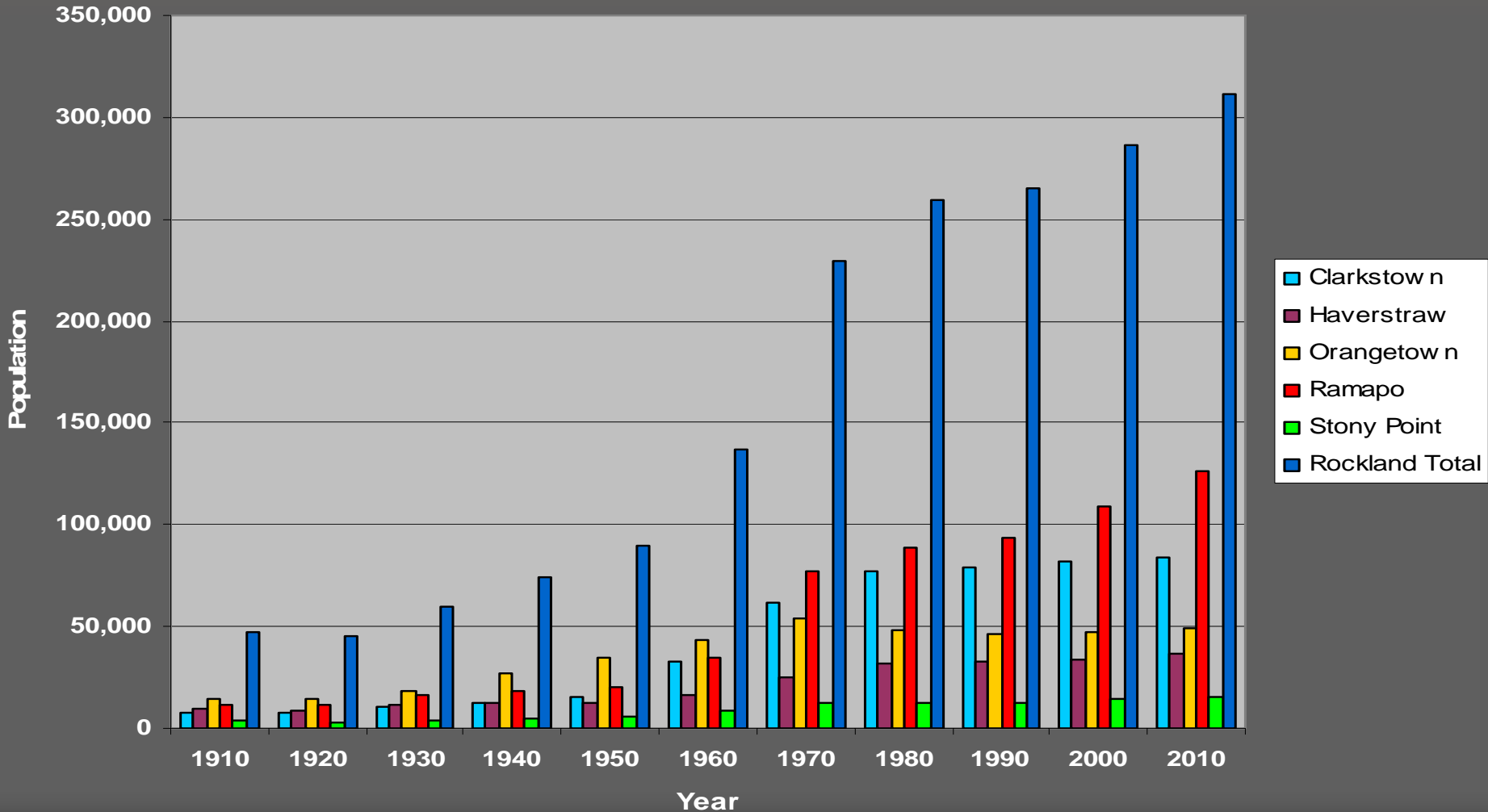


Growth in Population 1950-2010

Year	Population	% Change
1950	89,276	
1960	136,803	
1970	229,903	
1980	259,530	
1990	265,475	
2000	286,753	
2010	311,687	
1950-2010	↑ 222,411	249.1%
2000-2010	↑ 24,934	8.7%

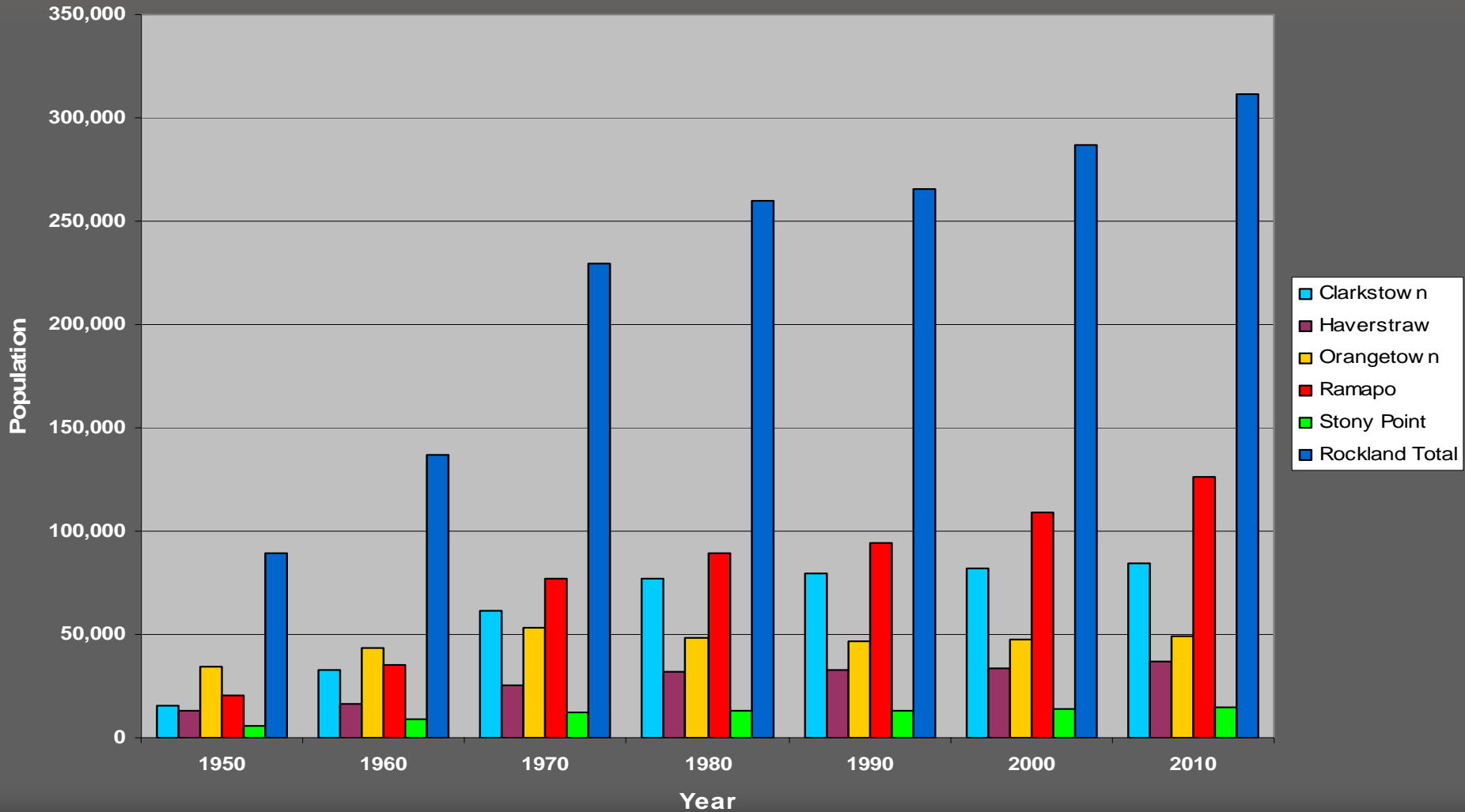
Population Growth by Town

Rockland County Growth 1910-2010



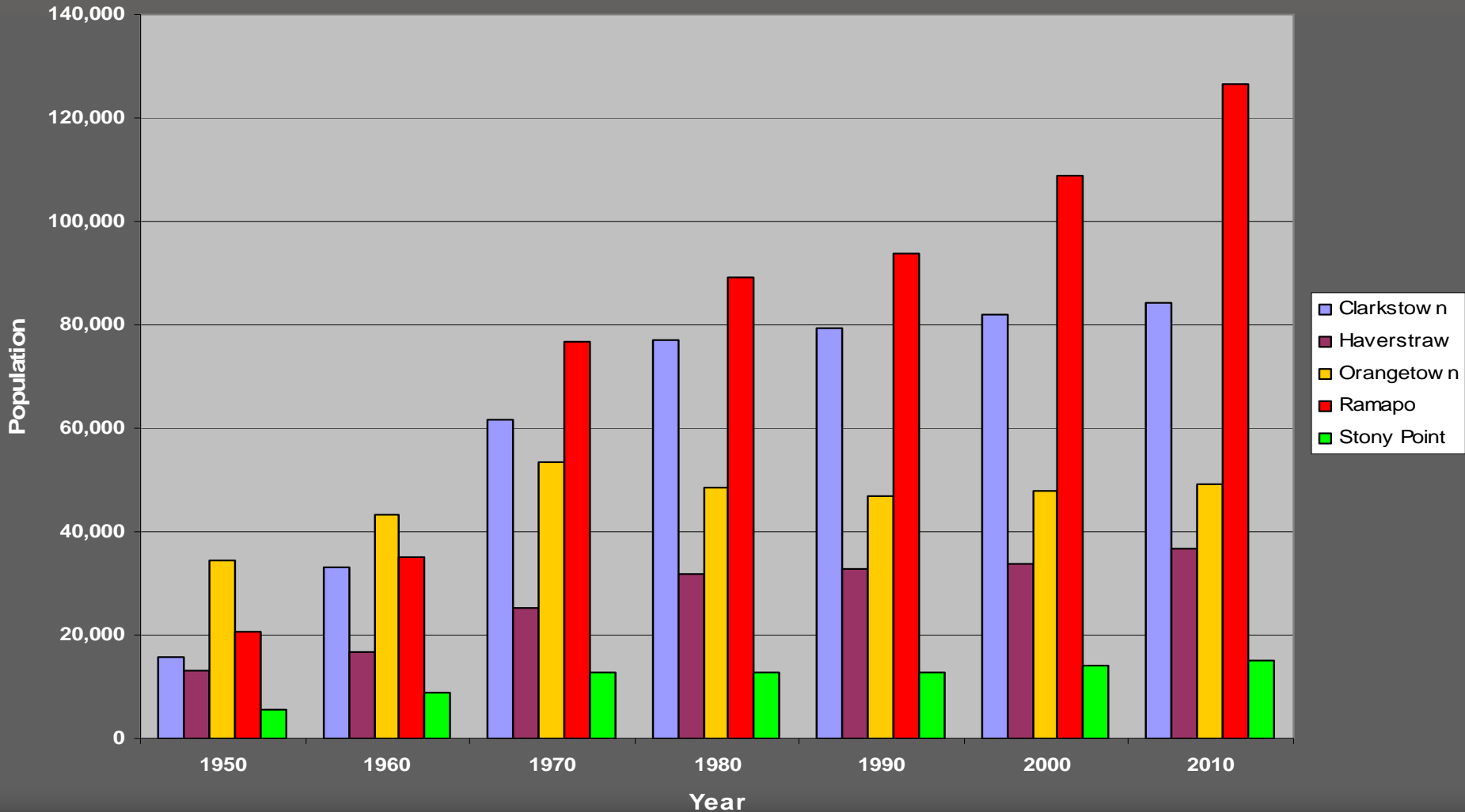
Population Growth by Town

Rockland County Growth 1950-2010



Population Growth by Town

Rockland County Growth 1950-2010



Population growth

- Since 1950, Rockland County's population has more than tripled - growing by more than 222,000 and 250%
- Rockland's 8.7% population increase between 2000 and 2010 was 2nd fastest in the Region and 3rd fastest in the State

Population Trends- Rockland 2000-2010

- Children (Under 18) - 9.1% increase (7.8% decline in State)
- Older Adults (65+) - 23.6% increase (7% increase in State)
- Increased Racial/ Ethnic Diversity
 - Black or African American- 14.9% increase
 - Asian- 21.6% increase
 - Hispanic or Latino- 67.2% increase
 - Foreign-Born Population- 28.7% increase
 - Other Than English Language- 36.7% increase

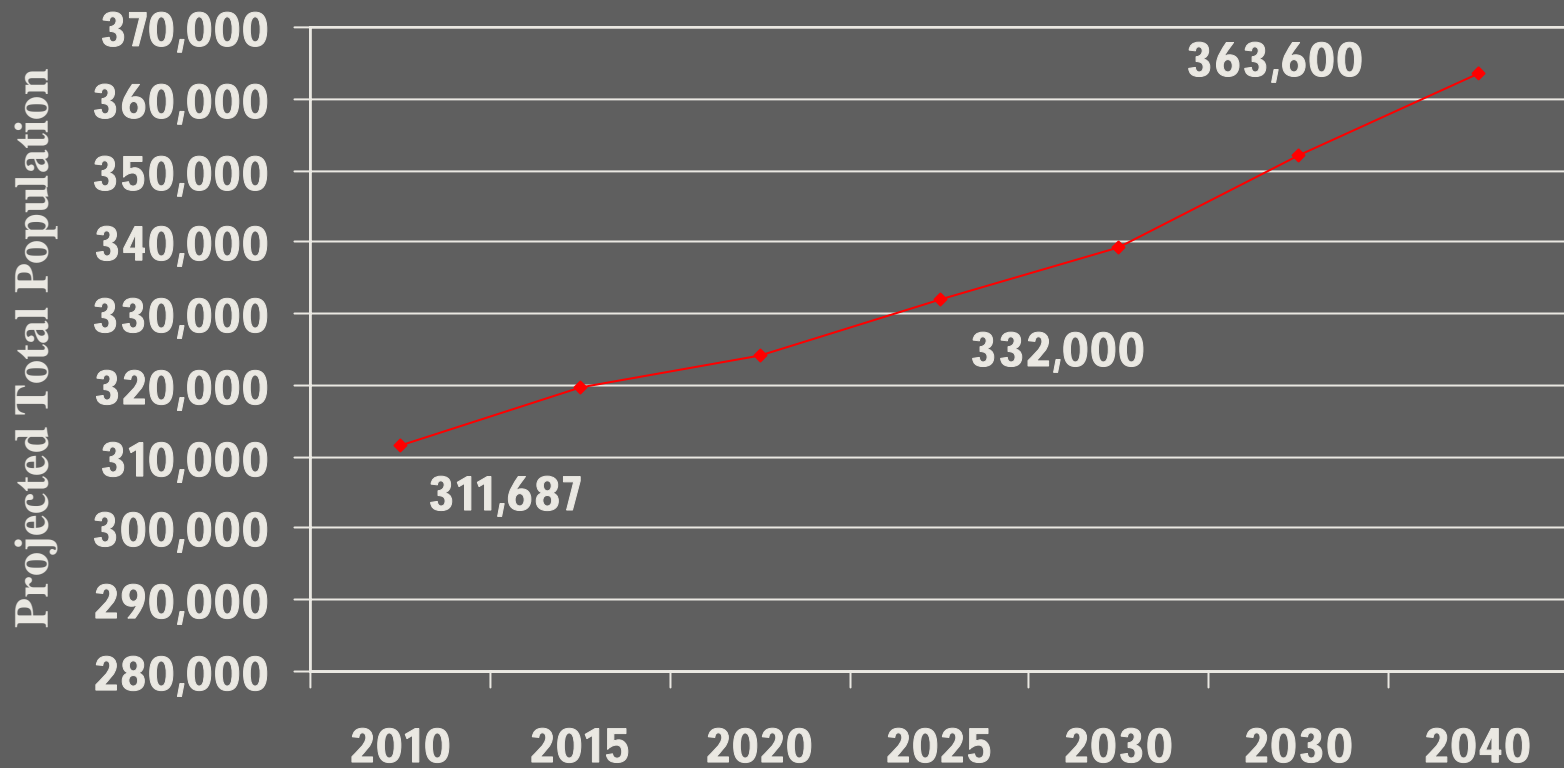
2000-2010 Population Change Transit Hubs/ I-287 Corridor

- Monsey CDP - 26.9% increase
- Spring Valley Village - 23.1% increase
- Haverstraw Village - 17.7% increase
- Airmont Village - 10.6% increase
- Nanuet CDP - 7.0% increase
- West Nyack - 4.8% increase
- Chestnut Ridge Village - 1.1% increase
- South Nyack Village - 1.1% increase
- Nyack Village - 0.4% increase
- Suffern Village - 2.6% decrease

The image features a landscape with a bright yellow horizon line, suggesting a sunrise or sunset. The sky above is a dark grey, and the foreground is a dark, flat surface. The text "Population Projections" is centered in the middle of the image.

Population Projections

Rockland's Projected Population 2010-2040



Source: New York Metropolitan Transportation Council

Rockland's Projected Population Change 2010-2040

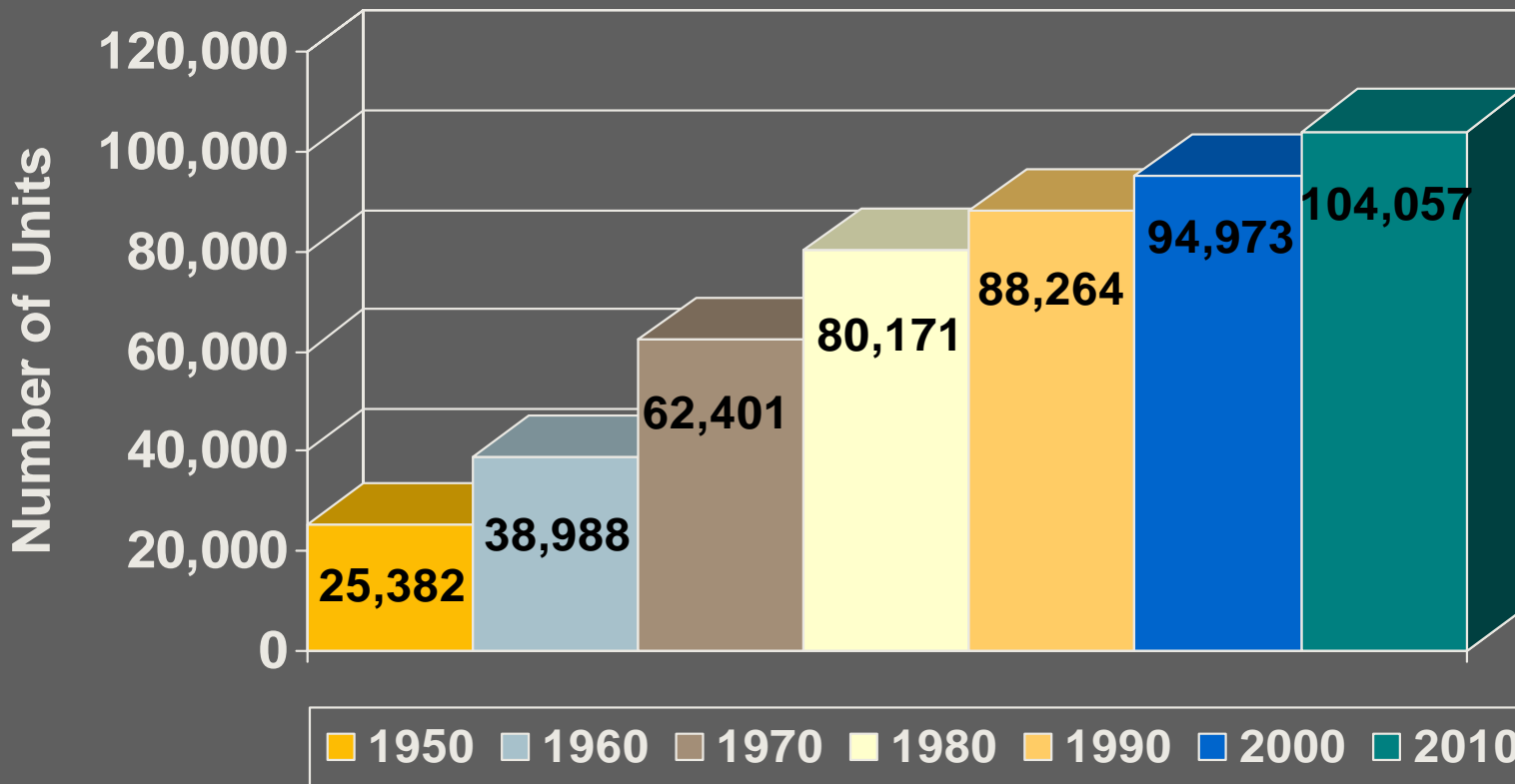
Year	Population	Percent Change
2010	311,687	
2015	319,800	
2020	324,300	
2025	332,000	
2030	339,300	
2035	352,200	
2040	363,600	
2010-2025	↑ 20,313	6.5%
2010-2040	↑ 51,913	16.7%

Source: New York Metropolitan Transportation Council

The image features a landscape with a bright yellow horizon line, suggesting a sunrise or sunset. The sky above is a dark grey, and the foreground is a dark, flat surface. The text "Housing Growth" is centered in the middle of the image.

Housing Growth

Historical Perspective Rockland County's Housing Units



Growth in Housing 1950-2010

Year	Housing Units	% Change
1950	25,382	
1960	38,988	
1970	62,401	
1980	80,171	
1990	88,264	
2000	94,973	
2010	104,057	
1950-2010	↑ 78,675	310.0%
2000-2010	↑ 9,084	9.6%

Housing growth

- Since 1950, Rockland County's housing has more than quadrupled- growing by more than 78,000 and 300%
- Rockland's 9.6% housing increase between 2000 and 2010 was 4th fastest in the Region and 12th fastest in the State

Units in Structure 2000-2010

Structure Type	2000	2010	Number Change	Percent Change
1- Unit, Detached	58,406	62,647	4,241	7.3%
1- Unit, Attached	6,949	7,044	95	1.4%
2 Units	5,717	6,045	328	5.7%
3 or 4 Units	6,729	8,133	1,404	20.9%
5 to 9 Units	6,149	7,864	1,715	27.9%
10 to 19 Units	3,135	3,243	108	3.4%
20 to 49 Units	2,362	3,056	694	29.4%
50 or More Units	4,312	4,634	322	7.5%
Other Type	1,214	1,400	186	15.3%

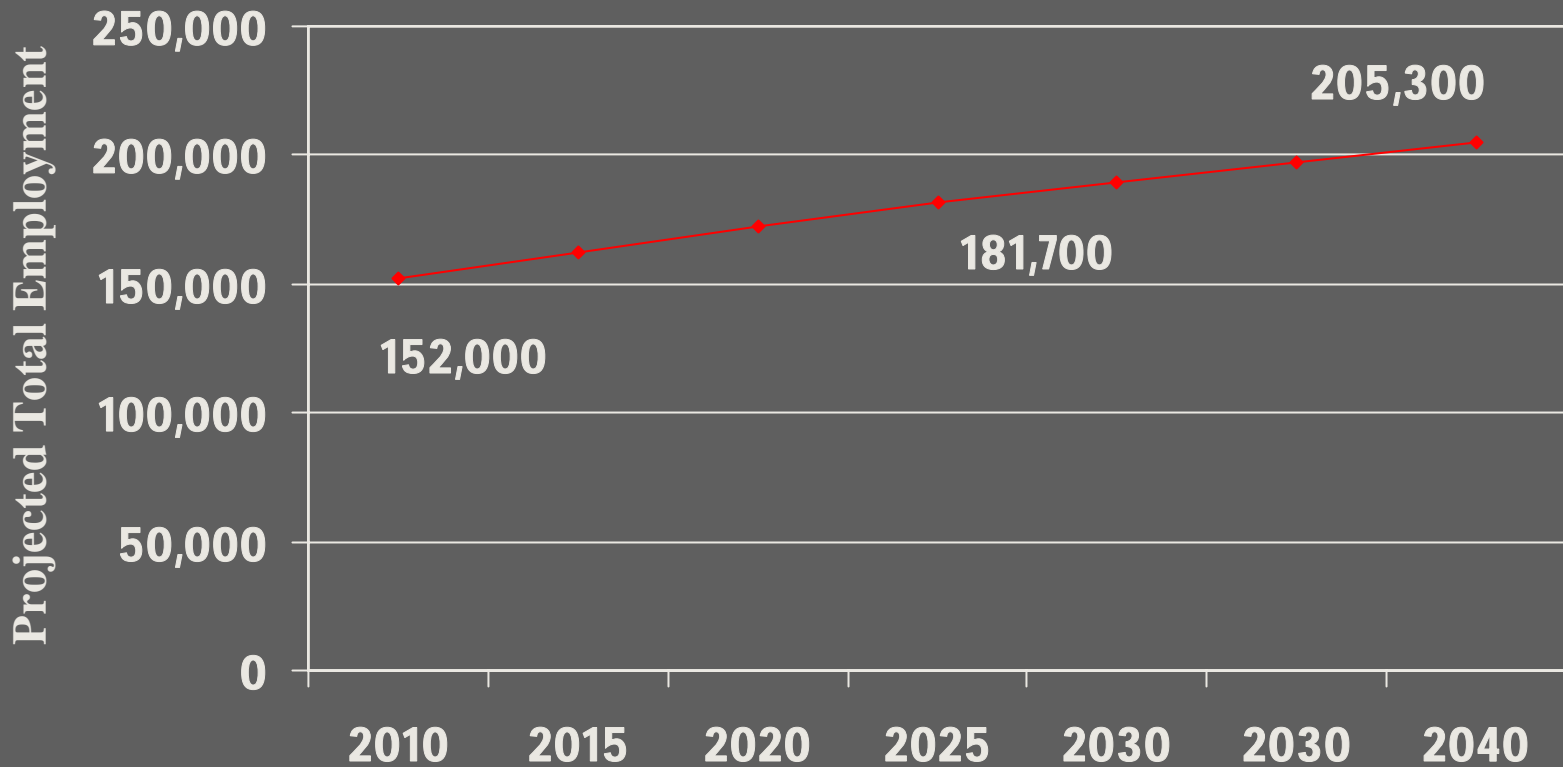
Units in Structure 2000-2010

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2 Units	5,717	6,045	328	5.7%
3 to 19 Units	16,013	19,240	3,227	20.2%
20 to 49 Units	2,362	3,056	694	29.4%
50 or More Units	4,312	4,634	322	7.5%
Other Type	1,214	1,400	186	15.3%

The background of the slide features a landscape with a bright yellow horizon line, suggesting a sunrise or sunset. The sky above is a mix of light and dark grey, with some faint clouds. The overall composition is simple and clean, focusing attention on the central text.

Employment

Rockland's Projected Total Employment 2010-2040



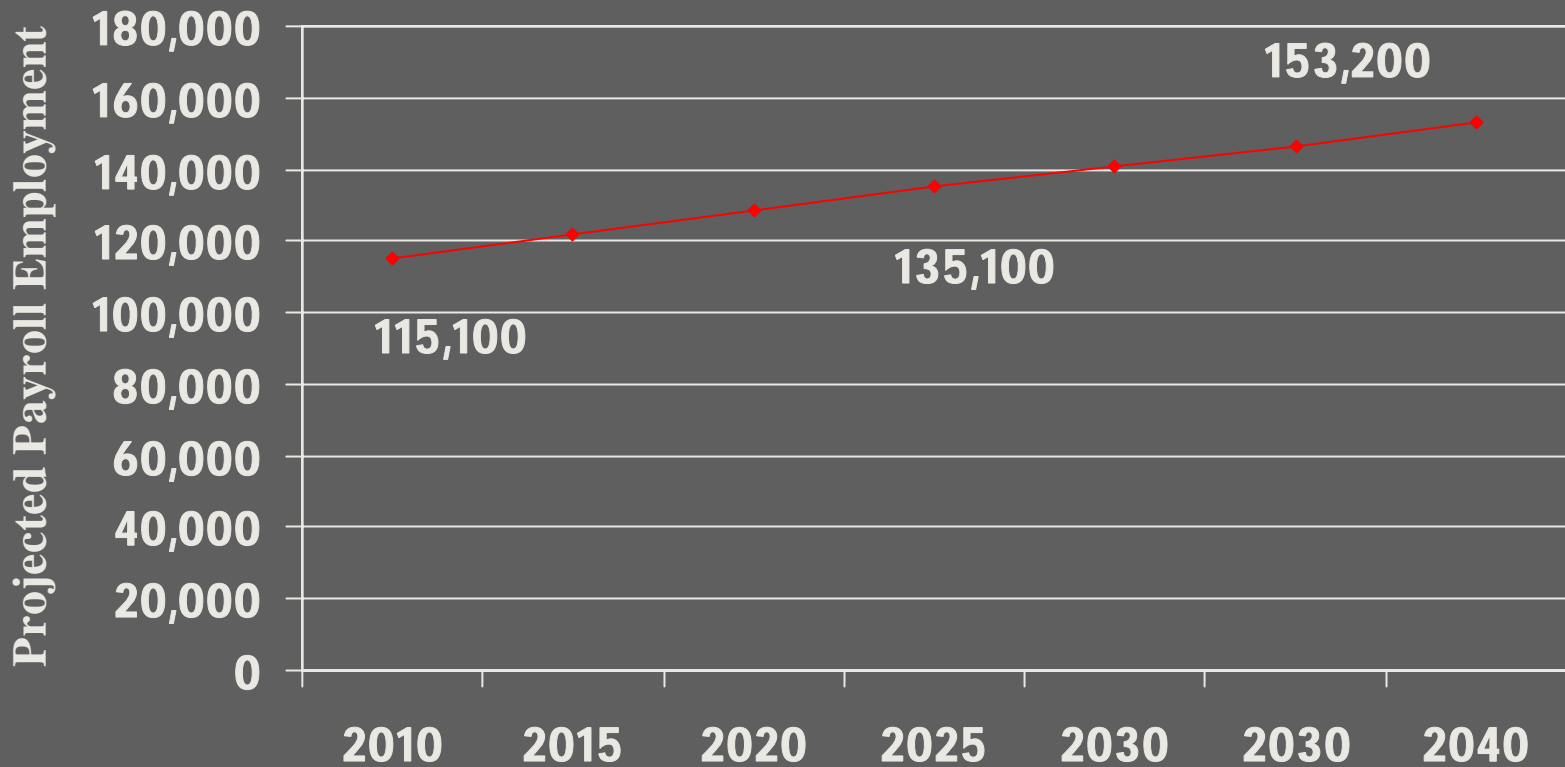
Source: New York Metropolitan Transportation Council

Rockland's Projected Total Employment Change 2010-2040

Year	Total Employment	Percent Change
2010	152,000	
2015	162,600	
2020	172,500	
2025	181,700	
2030	189,600	
2035	197,000	
2040	205,300	
2010-2025	↑ 29,700	19.5%
2010-2040	↑ 53,300	35.1%

Source: New York Metropolitan Transportation Council

Rockland's Projected Payroll Employment 2010-2040



Source: New York Metropolitan Transportation Council

Rockland's Projected Payroll Employment Change 2010-2040

Year	Payroll Employment	Percent Change
2010	115,100	
2015	121,800	
2020	128,400	
2025	135,100	
2030	141,100	
2035	146,700	
2040	153,200	
2010-2025	↑ 20,000	17.4%
2010-2040	↑ 38,100	33.1%

Source: New York Metropolitan Transportation Council

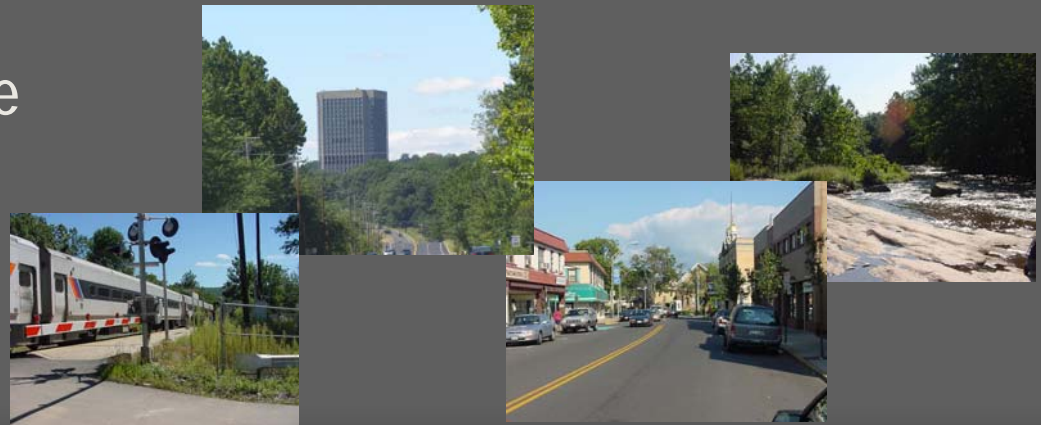


Rockland County
Comprehensive Plan
Rockland Tomorrow

Rockland Tomorrow

Adopted in 2011, winner of a 2012 NY Planning Federation Award

- History & Regional Setting
- Demographics
- Aging
- Land Use and Zoning
- Transportation
- Natural and Environmental Resources
- Parks and Open Space
- Historic and Cultural Resources
- Housing
- Economic Development
- Infrastructure
- Services and Information Resources
- Recommendations



Rockland Tomorrow

- “The lack of affordable workforce housing and accessible public transportation inhibits the County’s ability to retain and attract a broadly-based workforce, especially its young adults.”
- “...jobs such as those in healthcare, retail trade and manufacturing sectors are heavily filled by in-commuters from neighboring Hudson Valley counties.”

Rockland Tomorrow

- ➔ "Traffic Congestion on I-287...in the AM period can result in an annual cost of nearly \$9 million per weekday or \$44 million per workweek in an average year."
- ➔ "Heavy congestion in peak weekday periods is a major impediment to economic development..."



Economic Growth in I-287 Corridor

1-287 is Rockland County's
NYMTC "Priority Growth Corridor"

Economic Growth in I-287 Corridor

Existing:

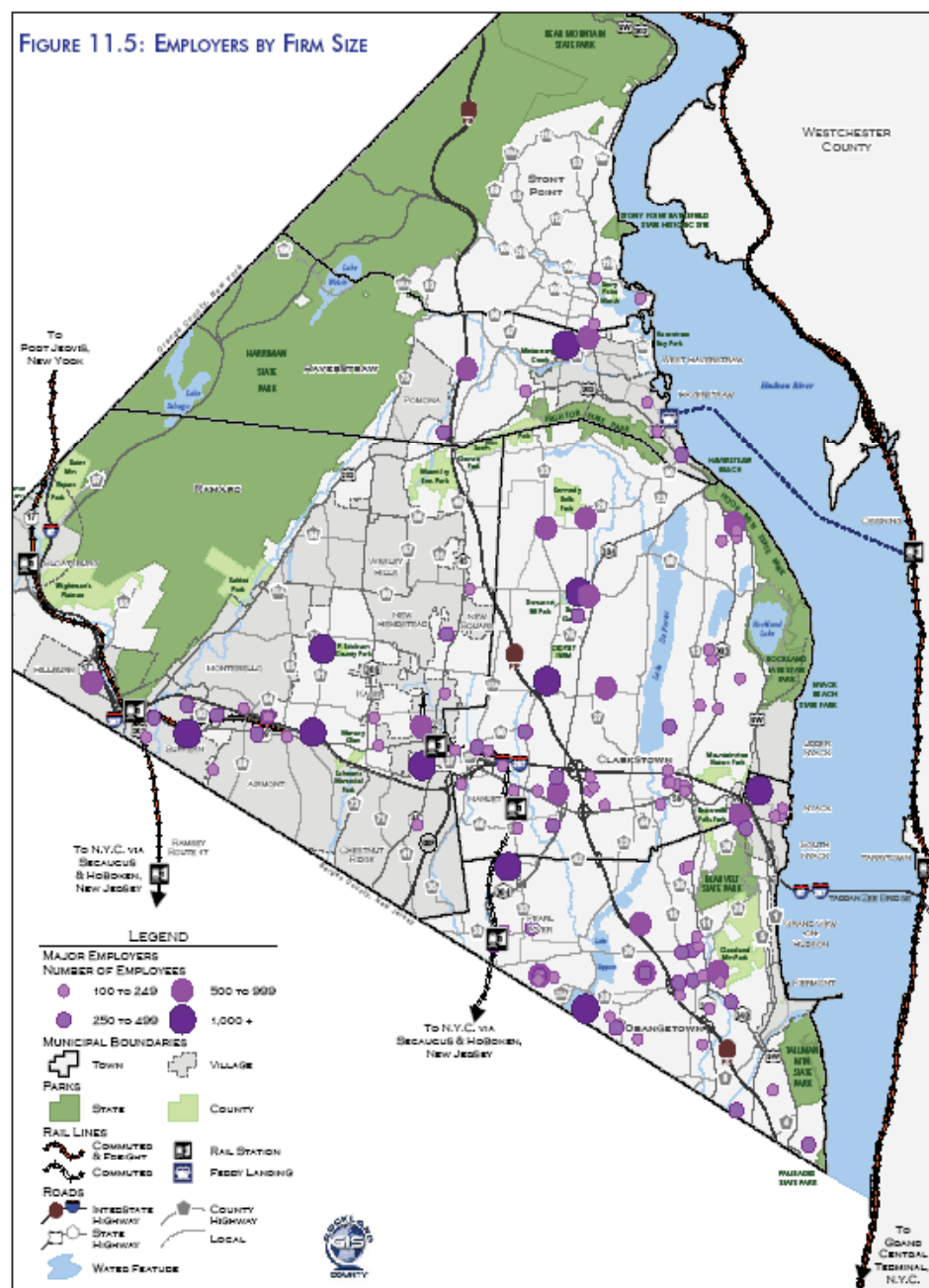
- ⇒ Palisades Center Mall
- ⇒ Novartis
- ⇒ Manhattan Beer Distributors
- ⇒ Avon

Economic Growth in I-287 Corridor

New:

- ⇒ Raymour and Flanigan (750 employees locating in Montebello)
- ⇒ FedEx (Route 303 in Blauvelt)
- ⇒ The Shoppes at Nanuet (Nanuet Mall redevelopment)

FIGURE 11.5: EMPLOYERS BY FIRM SIZE



ECONOMIC DEVELOPMENT



Economic Development

- ➔ Continued economic growth in the corridor is dependent on the corridor conditions
- ➔ Businesses need to be able to move their people and goods through the corridor
- ➔ Growing congestion is a major concern
- ➔ Increased transit options will reduce congestion

Freight Movement

- ⇒ I-287 NJ Connector increased truck traffic in corridor
- ⇒ The NYMTC Regional Freight Plan shows that 95% of all freight transported in Rockland County is shipped by trucks; the balance is shipped by rail and water
- ⇒ According to NYMTC, the amount of products and materials coming into and out of the region is expected to increase a total of 47% in the next 25 years

A landscape image with a bright yellow horizon and a dark grey sky. The horizon is a thin line of light, and the sky is a gradient of grey. The text "Commute Patterns" is centered in the middle of the image.

Commute Patterns

Journey to Work

(2006-2008 American Community Survey: Census Transportation Planning Package)

- 81.5% of Rockland County resident workers drove alone or carpooled to commute to work
- 9.1% of Rockland County resident workers used public transportation to commute to work
 - 7.2% by bus
 - 1.7% by rail

Journey to Work

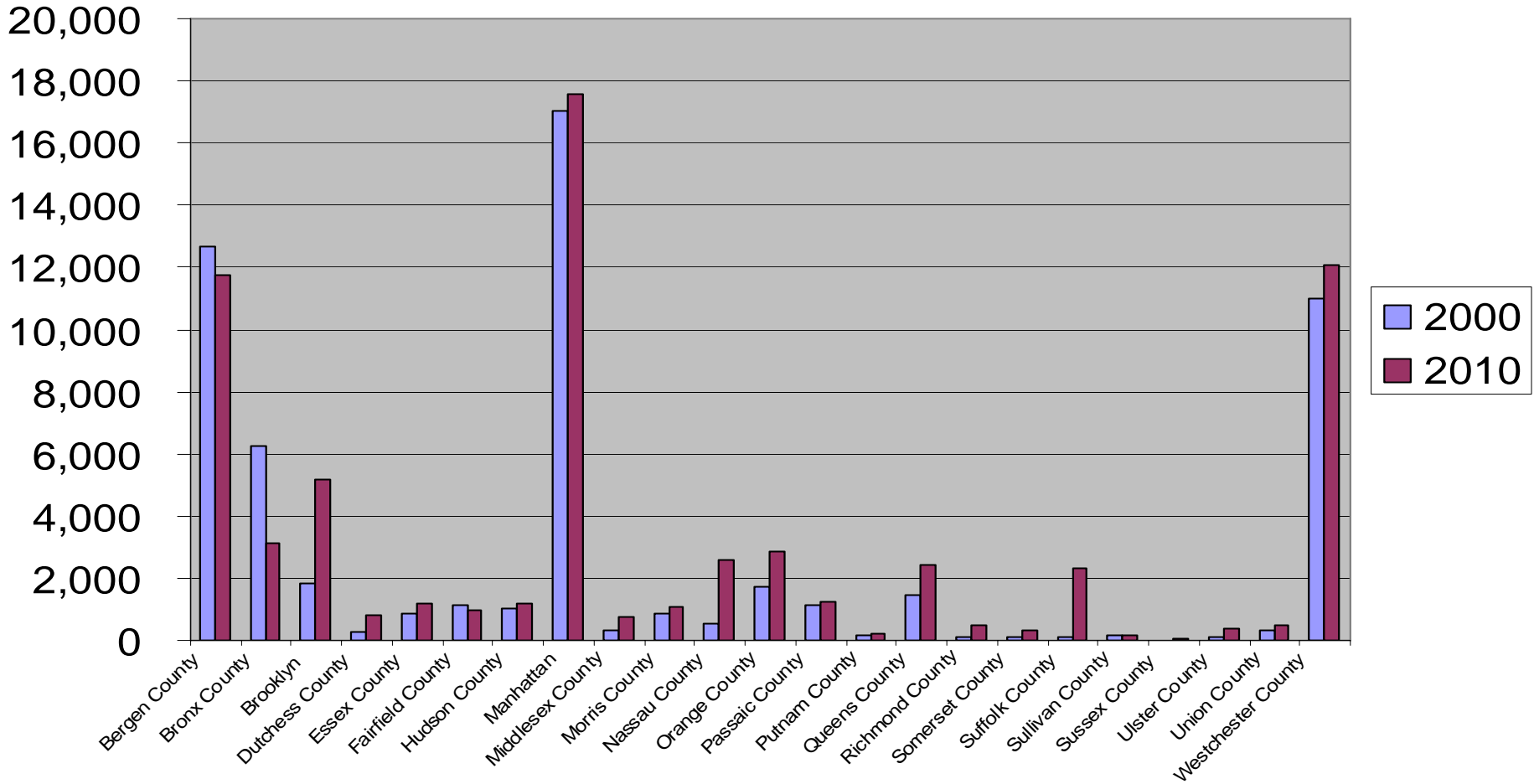
(2006-2008 American Community Survey: Census Transportation Planning Package)

- 69.2% of Rockland County resident workers drove alone or carpooled to work in New York City
- 29.8% of Rockland County resident workers used public transportation to work in New York City
 - 20.2% by bus
 - 8.1% by rail

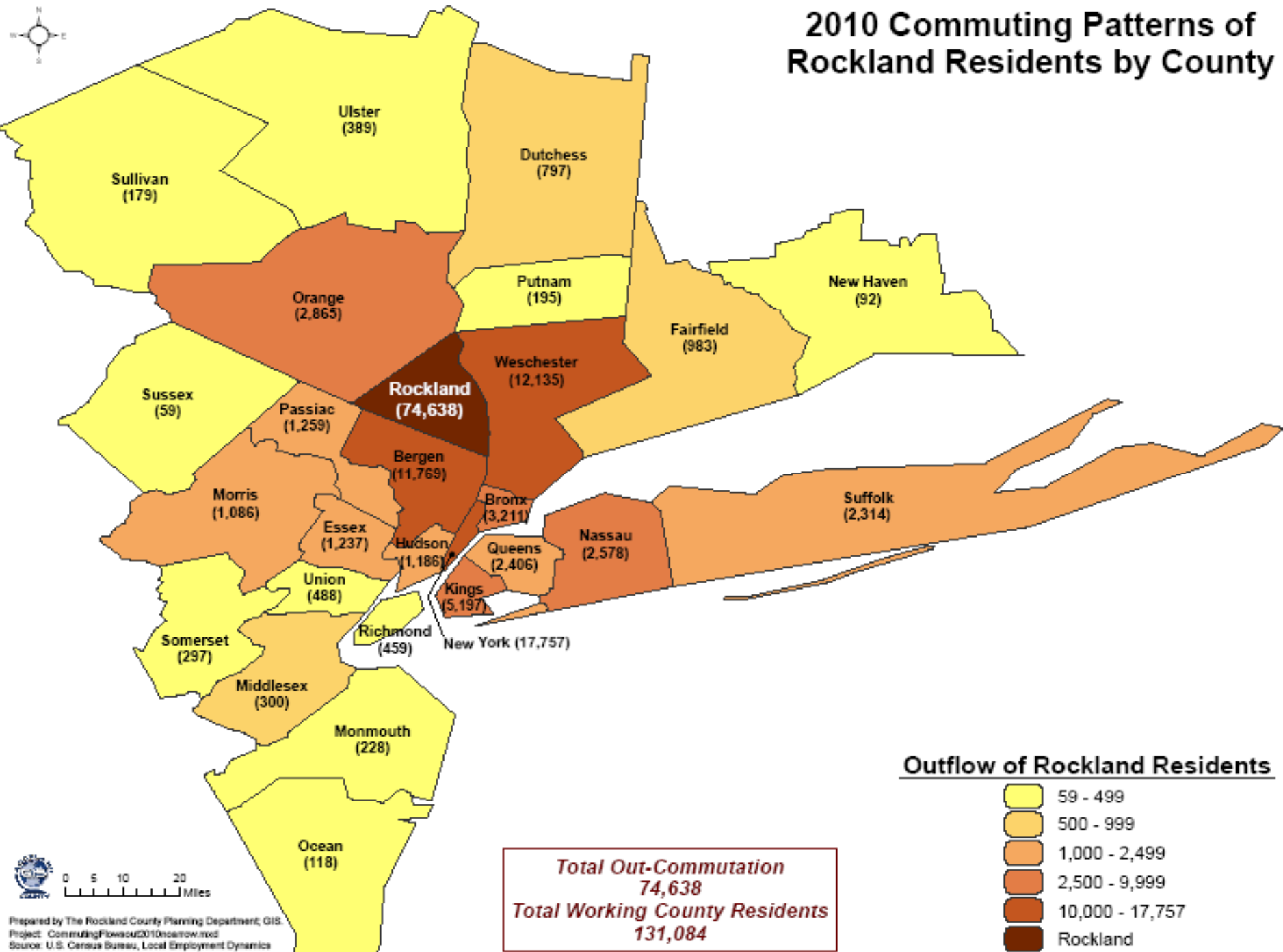


**Journey to Work
Outflow from Rockland**

Rockland Residents/Commuter Destinations



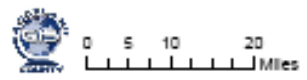
2010 Commuting Patterns of Rockland Residents by County



Outflow of Rockland Residents

- 59 - 499
- 500 - 999
- 1,000 - 2,499
- 2,500 - 9,999
- 10,000 - 17,757
- Rockland

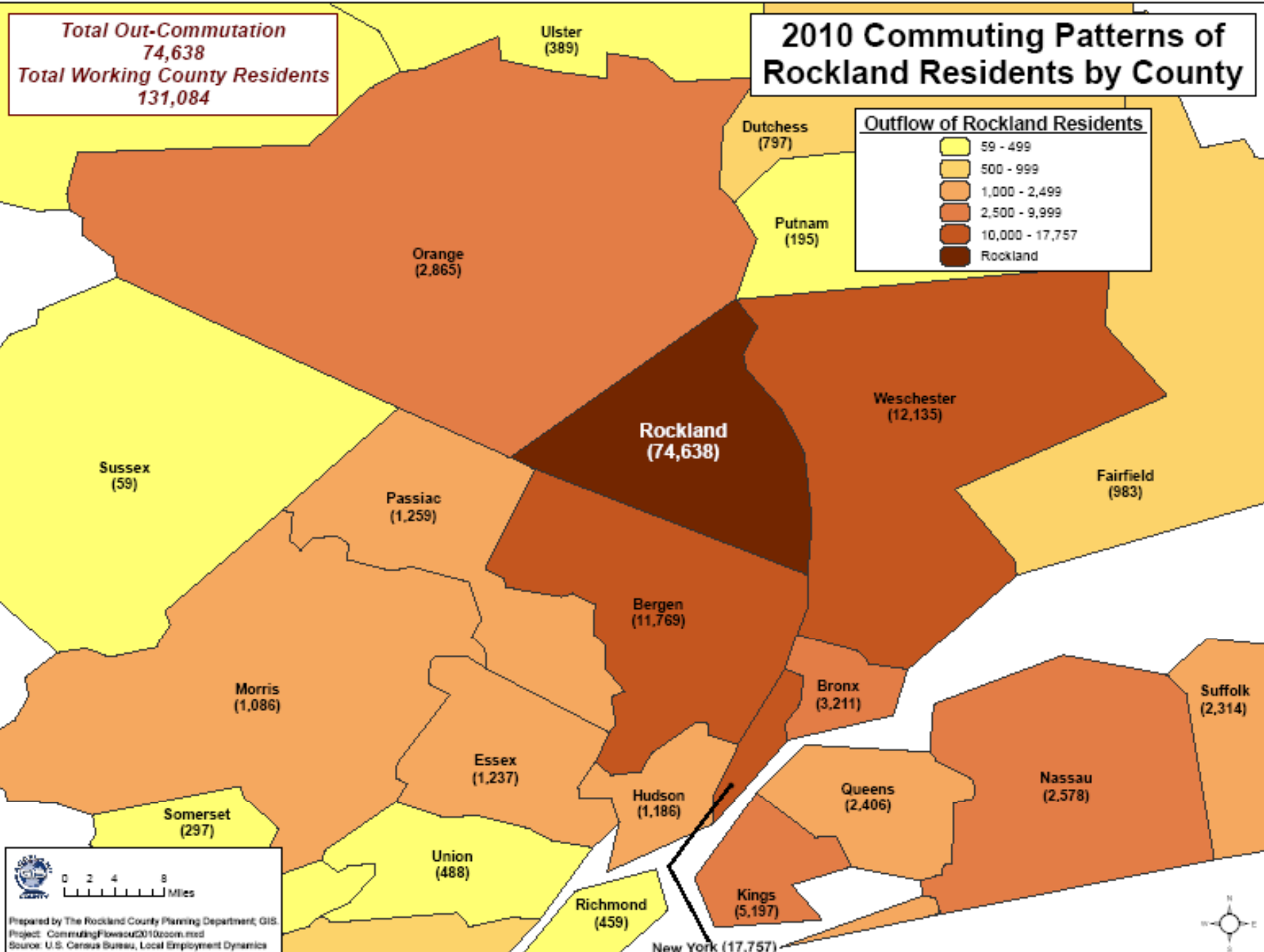
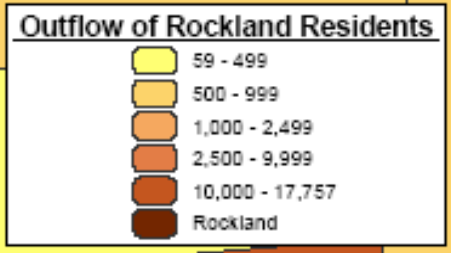
Total Out-Commutation
74,638
Total Working County Residents
131,084




Prepared by The Rockland County Planning Department, GIS
 Project: CommutingFlowsOut2010InArrow.mxd
 Source: U.S. Census Bureau, Local Employment Dynamics

2010 Commuting Patterns of Rockland Residents by County

Total Out-Commutation
74,638
Total Working County Residents
131,084




 0 2 4 8 Miles
 Prepared by The Rockland County Planning Department, GIS
 Project: CommutingFlowsOut2010Zoom.mxd
 Source: U.S. Census Bureau, Local Employment Dynamics



Journey to Work Outflow 1990-2010

- ⇒ Out-Commutation has increased by 14,900 & 24.9% from 59,738 to 74,638 commuters
- ⇒ Rockland to Manhattan has increased by 388 & 2.2%
- ⇒ Rockland to Westchester has increased by 2,061 & 20.5%
- ⇒ Rockland to Brooklyn and Queens has increased by 4,674 & 160.0%
- ⇒ Rockland to Orange has increased by 1,578 & 122.6%

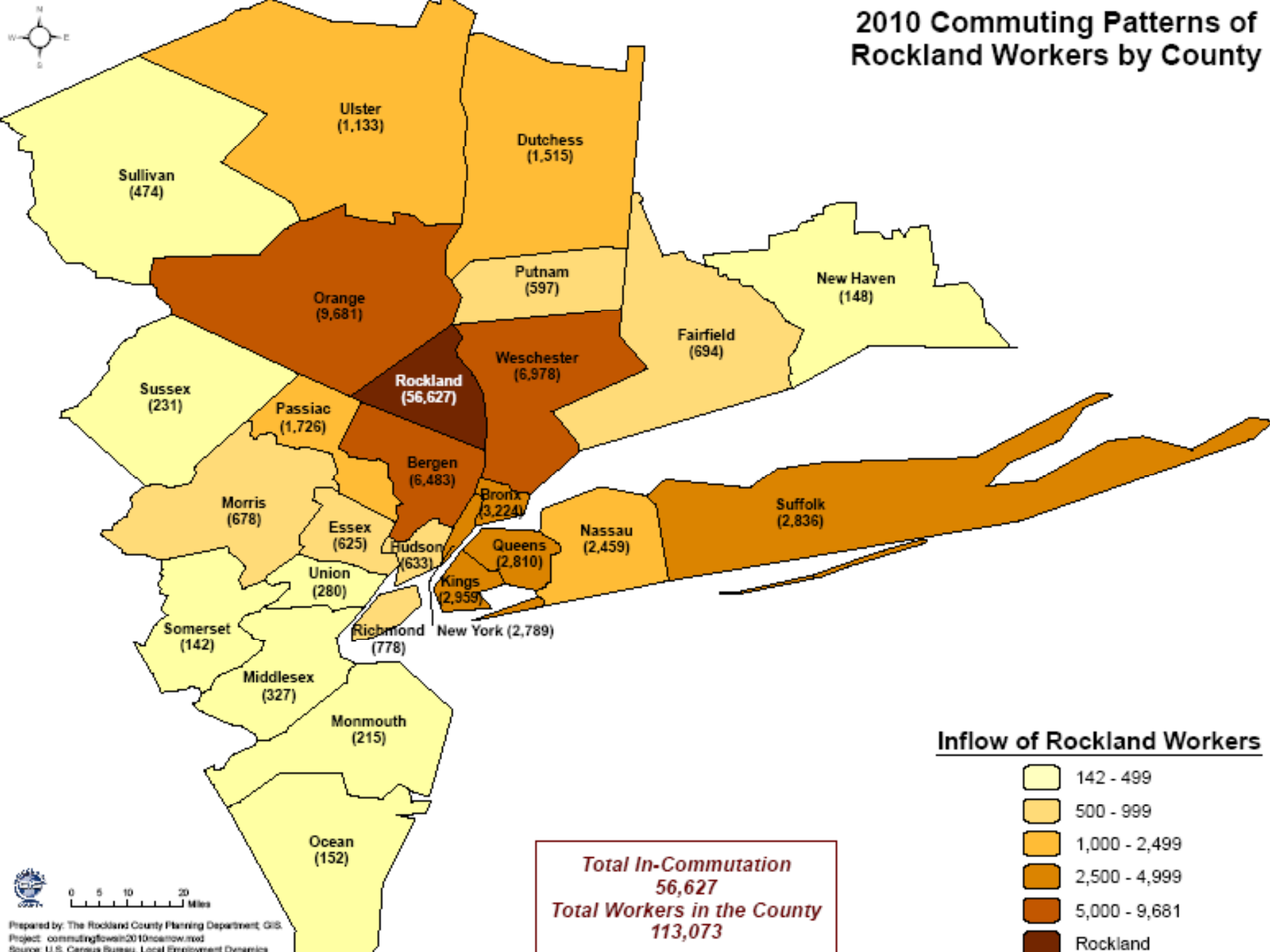
The background of the slide features a landscape with a bright yellow horizon line, suggesting a sunrise or sunset. The sky above is a dark grey, and the foreground is a dark grey gradient. The text is centered in the middle of the slide.

Journey to Work Inflow to Rockland



Rockland is a growing commute destination

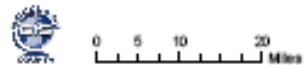
2010 Commuting Patterns of Rockland Workers by County



Inflow of Rockland Workers

- 142 - 499
- 500 - 999
- 1,000 - 2,499
- 2,500 - 4,999
- 5,000 - 9,681
- Rockland

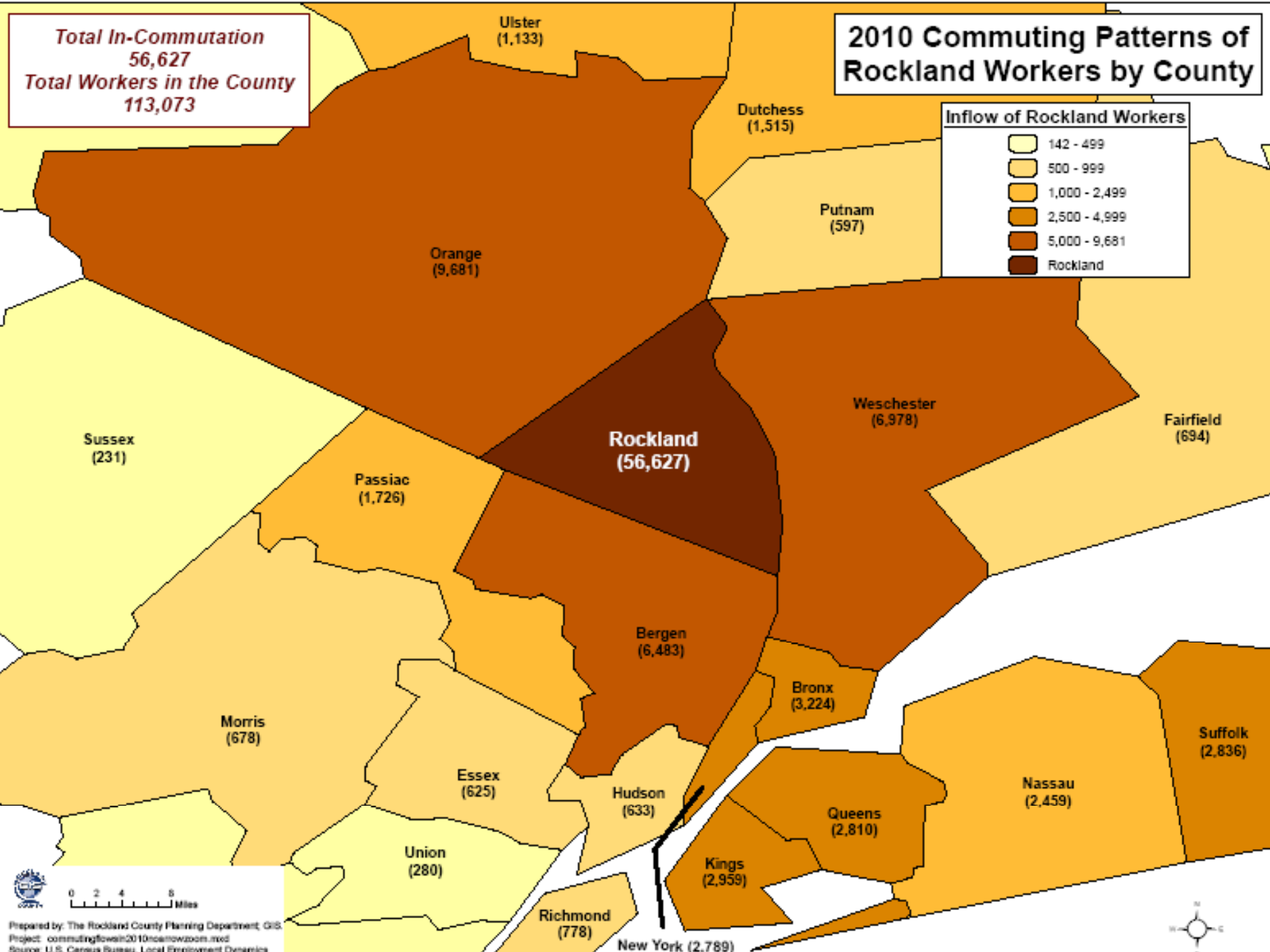
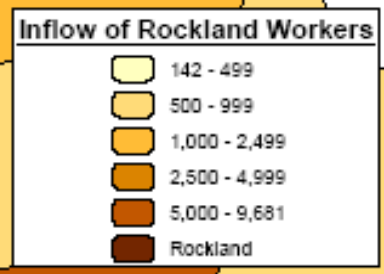
Total In-Commutation
56,627
Total Workers in the County
113,073



Prepared by: The Rockland County Planning Department, GIS
 Project: commutingflowin2010/ncarrow.mxd
 Source: U.S. Census Bureau, Local Employment Dynamics

2010 Commuting Patterns of Rockland Workers by County

Total In-Commutation
56,627
Total Workers in the County
113,073



Journey to Work Inflow 1990-2010

- ⇒ In-Commutation has increased by 29,799 & 111.1% from 26,828 to 56,627 commuters
- ⇒ Orange to Rockland has increased by 971 & 11.1%
- ⇒ Westchester to Rockland has increased by 3,704 & 113.1%
- ⇒ Manhattan to Rockland has increased by 1,591 & 132.8%
- ⇒ Brooklyn and Queens to Rockland has increased by 3,657 & 173.2%
- ⇒ Bronx to Rockland has increased by 2,152 & 200.7%

Transit Dependent Population 1990-2010

- ⇒ Rockland's Older Adult Population (65+) increased by 14,970 & 55.7%
- ⇒ Since 1990, Rockland's low-income population has more than doubled- growing by 16,790 and 101.6%
- ⇒ In 2010, more than 25,000 and 8% of Rockland residents identified themselves as having a disability, including more than 11,000 residents with an ambulatory disability
- ⇒ Rockland households with no vehicles available increased by 1,559 and 21.4%

Rockland's Transit Options - Rail

⇒ Pascack Valley

- Spring Valley
- Nanuet
- Pearl River

⇒ Port Jervis/Main/Bergen

- Sloatsburg
- Suffern

Rockland's Transit Options – Bus/Rail combination

- ⇒ TAPPAN ZExpress bus to Metro-North
 - Tarrytown
- ⇒ TAPPAN ZExpress bus to White Plains

Rockland's Transit Options – Ferry/Rail Combination

- ⇒ Haverstraw to Ossining
- ⇒ Connects to Metro-North's Hudson Line

Rockland's Transit Options – Commuter Bus Services

- ⇒ Coach USA Express (Shortline) to midtown and Wall Street
- ⇒ Coach USA's Red & Tan (Rockland Coaches) to Port Authority and GWB Terminal
- ⇒ Monsey Trails to downtown and Brooklyn

FIGURE 6.2: PARK & RIDE LOTS



Rockland County Park & Ride Lots

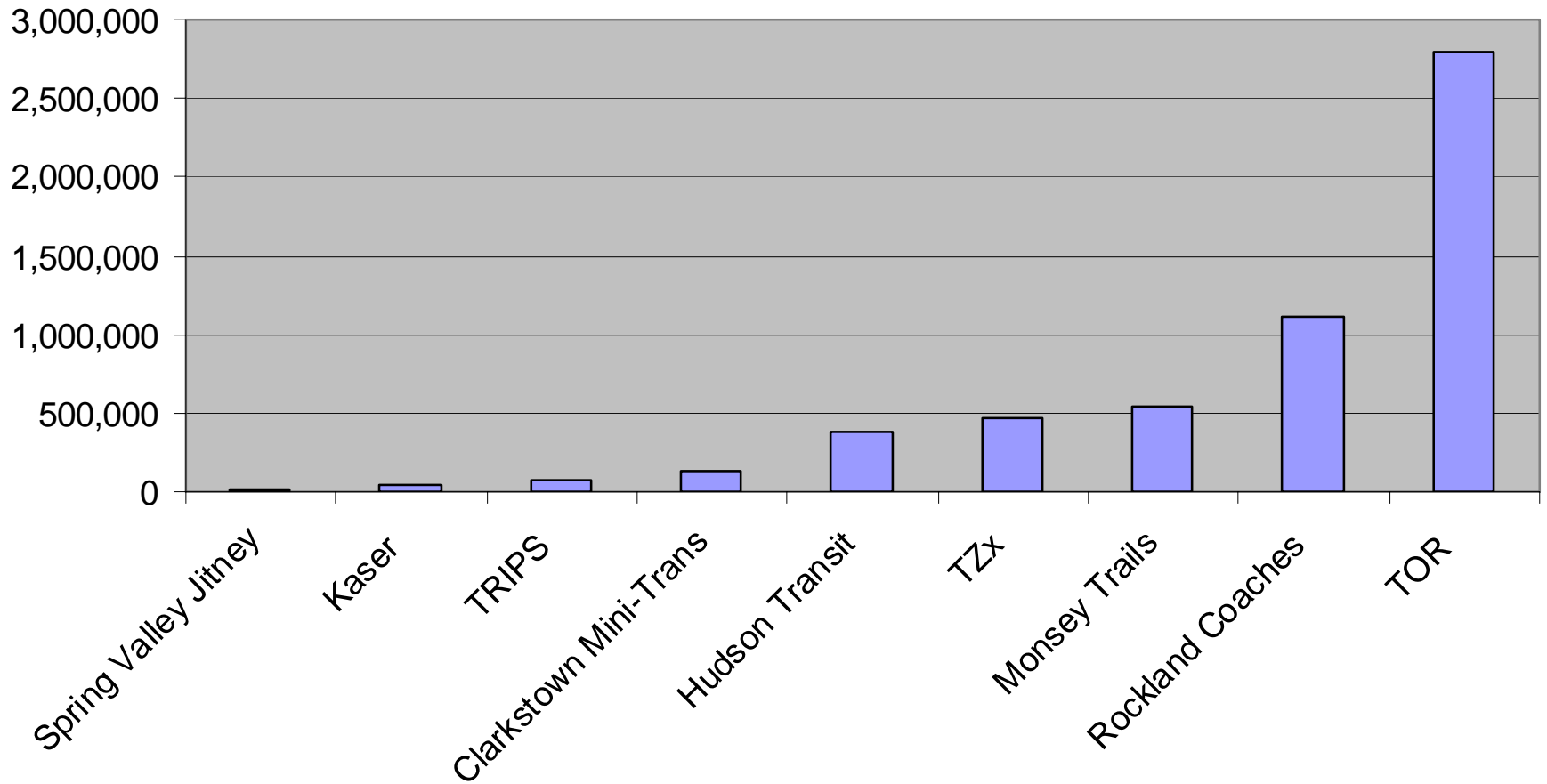
Bus & Rail:

- 39 Facilities
- 6,332 Spaces

Carpool:

- 4 Additional Facilities devoted to carpoolers

All Bus Operators In Rockland 2012 Ridership



Transit Constraints

- ⇒ Commuter buses compete with other traffic & congested roadways – No Dedicated Bus Lanes
- ⇒ Pascack Valley Line/Woodbine Rail Yard Constraints
- ⇒ Limited Ferry Service
- ⇒ Park & Ride Lot Capacity
- ⇒ Demise of ARC project (Makes TZB even more important)
- ⇒ Lincoln Tunnel Express Bus Lane (XBL) and Port Authority Bus Terminal at Capacity



**Rockland County
Department of Public Transportation**

Transport of Rockland (TOR)

2012 Quick Facts

Routes:

10

Ridership:

2,851,242

Operating Cost

\$11,513,234

Buses In Service:

43

Local bus system for Rockland County, providing service along major corridors and feeder routes within the County, connections to the Clarkstown Mini-Trans and Spring Valley Jitney, as well as connections to other regional transit services such as Rockland Coaches (Red & Tan), Short Line, and NJ Transit.

Routes:

59

92

94

97

Loop 2

91

93

95

Loop 1

Loop 3



TOR Routes

#59 – Nyack to Suffern

#91 – Nyack to Spring Valley via Haverstraw

#92 – Nyack to Spring Valley via Orangetown

#93 – Nanuet to Sloatsburg via RCC

#94 – Spring Valley to Stony Point via RCC

#95 – North Rockland to RCC

#97 – Stony Point via Haverstraw to Tappan

TOR Routes

TOR Loop #1 Western Ramapo and Suffern

TOR Loop #2 Eastern Ramapo and Monsey

TOR Loop #3 Eastern Ramapo, Wesley Hills, RCC



Need Bus Information?

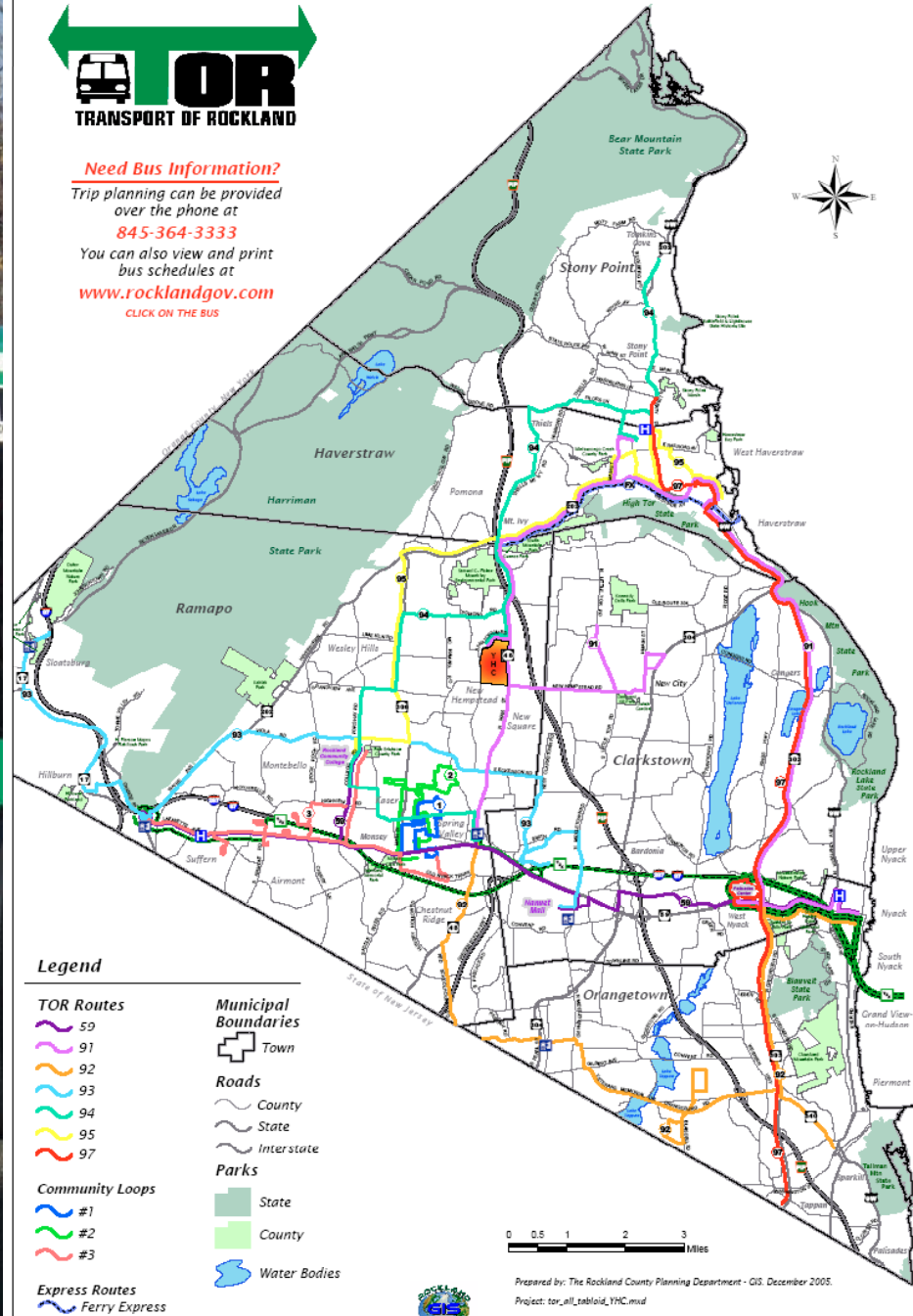
Trip planning can be provided over the phone at

845-364-3333

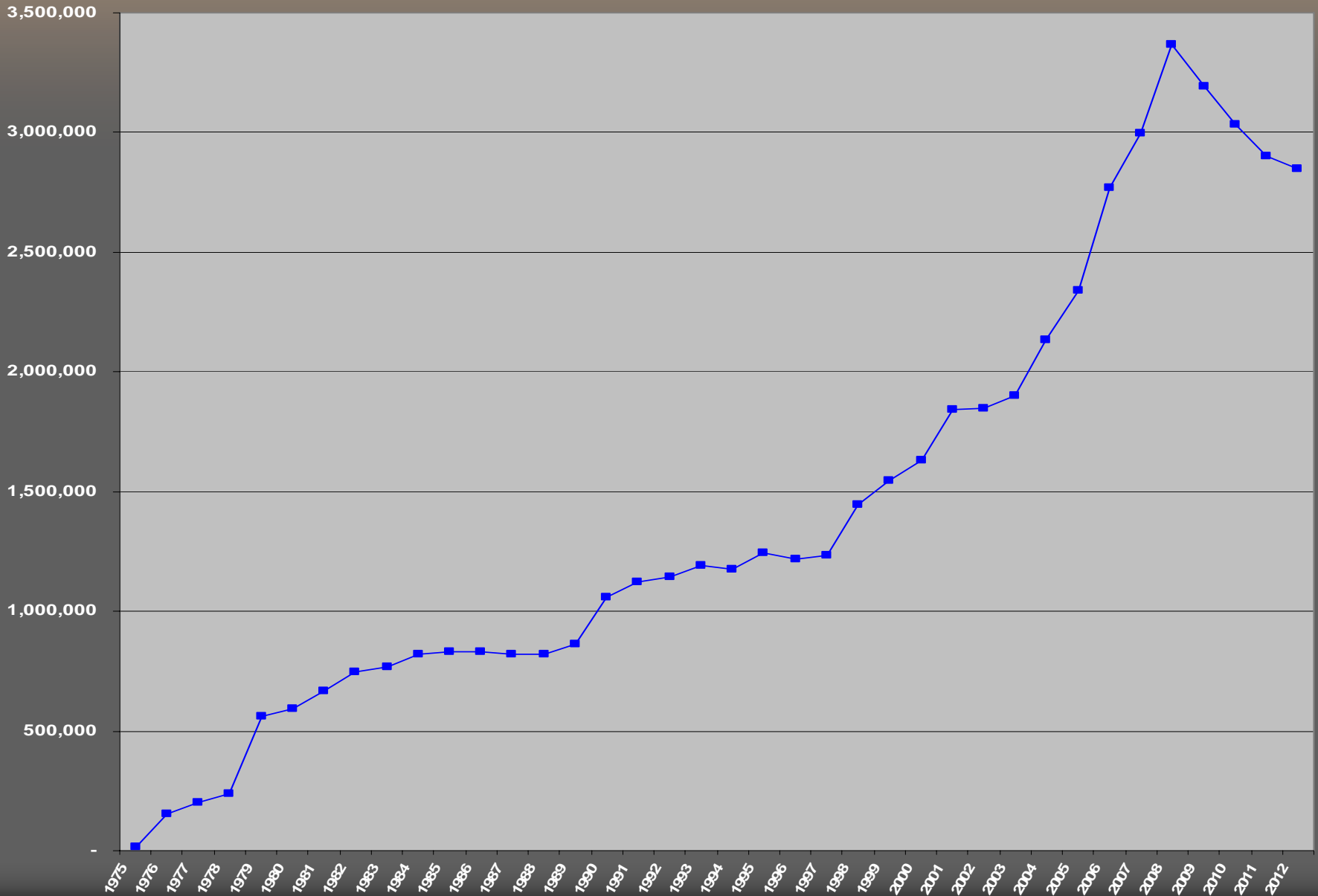
You can also view and print bus schedules at

www.rocklandgov.com

CLICK ON THE BUS



TOR Ridership Growth





Tappan ZExpress (TZx)

2012 Quick Facts

Operating Cost:
\$3,357,626

Ridership:
469,347

**Buses In
Service:**
19

Commuter bus system managed by Rockland County Dept. of Public Transportation, operating service between Suffern and points in Westchester County such as Tarrytown and White Plains, which are major activity centers and have train stations served by Metro-North Railroad.



TAPPAN ZEEExpress (TZx)

- ⇒ Commuter bus service launched in 1989
- ⇒ Service from Suffern, Spring Valley, Palisades Center Park & Ride and Nyack to Tarrytown RR Station and White Plains
- ⇒ 87 trips over bridge each weekday
- ⇒ Operates Monday – Saturday
- ⇒ Three hybrid-electric and 16 clean diesel buses
- ⇒ Planning to replace the 16 clean diesel buses in FFY 2017 with alternate fuel vehicles

TZx Service Detail

45 trips from Rockland (Eastbound) each weekday

- 38 TZx trips and 7 Orange-Westchester Link (OWL) trips
- 12 go to both Tarrytown Rail Station and White Plains Trans Center
- 13 go to Tarrytown Rail Station (8 express from Palisades Center)
- 20 go to White Plains Trans Center
- 25 trips are during AM peak (5-10 am)
- 8 trips are during PM peak (4-7 pm)
- 8 trips are during midday (10 am – 4 pm)
- 4 trips are during evening/night (7 pm to 4 am)

TZx Service Detail

42 trips from Westchester (Westbound) each weekday

- 37 TZx trips and 5 OWL trips
- 12 depart from both Tarrytown Rail Station and White Plains Trans Center
- 15 depart from Tarrytown Rail Station (5 express to Palisades Center)
- 15 depart from White Plains Trans Center
- 14 trips are during AM peak (5-10 am)
- 14 trips are during PM peak (4-7 pm)
- 8 trips are during midday (10 am – 4 pm)
- 6 trips are during evening/night (7 pm to 4 am)

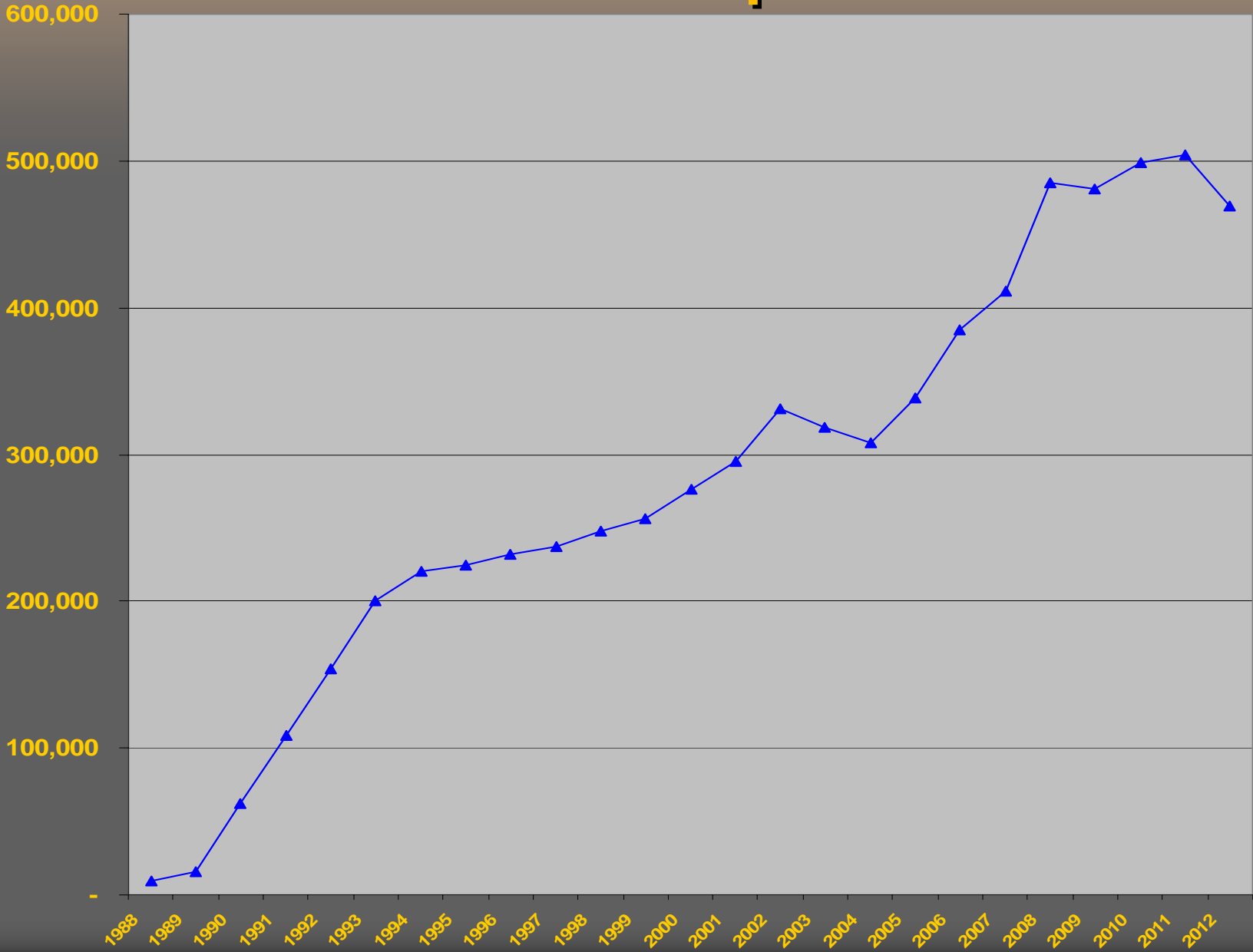
TZx Service Areas - Rockland

- Suffern
- Airmont
- Spring Valley Transit Center
- Nanuet
- Palisades Center Park & Ride (TZx hub)
- Palisades Center Stores (@Macy's)
- Central Nyack
- Nyack
- South Nyack

TZx Service Areas - Westchester

- Downtown White Plains
- White Plains Trans Center
- Westchester County Center
- Galleria Mall
- Tarrytown - Route 119
- Tarrytown Rail Station

TZx Ridership Growth





Bridge Construction and Transit

We must establish a
Construction Mitigation Transit Plan

Construction Mitigation Transit Plan

- ⇒ Accommodate TZx and enhance other existing transit options during construction
- ⇒ Protect transit connection to Metro-North and continue to provide a reasonable commute to White Plains
- ⇒ Provide priority access for TZx: Use of Thruway shoulders, when possible, to remove buses from traffic congestion and provide incentive for transit use
- ⇒ Expand and diversify TZx service during construction
- ⇒ Expand Haverstraw-Ossining ferry service, commuter rail service and commuter bus service to NYC.

Short-Term Actions

- ⇒ TZx *Direct* Bus Service
 - Use of dedicated bus lanes on new bridge
 - "Bus-On-Shoulder System (BOSS)"
 - Transit Ramp to Tarrytown Station
 - Expansion of existing TZx bus service
- ⇒ Eliminate off-peak tolls for County buses
- ⇒ Improve transit access to White Plains
- ⇒ Innovative financing to fund transit needs

TZx Direct Components

"Bus-On-Shoulder System (BOSS)"

- ⇒ Utilize existing highway capacity in the Thruway shoulders from at least Exit 12 (Palisades Center) to the bridge during peak travel times
- ⇒ Speed the trip by removing TZx from the constraints of traveling in the general traffic lanes
- ⇒ Traffic Management Systems would control access/provide for transition into dedicated bus lanes on the bridge
- ⇒ Provide incentive for commuters to use transit

***TZx Direct* Components**

Transit Ramp to Tarrytown Rail Station

- ➡ Slip ramp/connector from Toll Plaza to Tarrytown Rail Station
- ➡ Remove buses from Route 9 in Tarrytown and provide seamless transition from bus to rail
- ➡ The slip ramp/connector study should get underway as soon as the Task Force completes its recommendations

TZx Direct Components

Expansion of existing TZx service

- ⇒ Rockland must be poised to launch the *TZx Direct* when the bridge is complete
- ⇒ Ideally, the ramp to Tarrytown Rail Station should be ready when the bridge opens to reduce length of trip and create a true “Direct” service
- ⇒ With availability of funds, Rockland will expand the service schedule, increase trip frequency, expand and diversify the alternate-fuel vehicle fleet and add passenger amenities (WiFi, swipe cards) to develop a premium commuter service

Mid-Term Vision

- ⇒ Full-Corridor Bus Rapid Transit
 - Dedicated access to White Plains corporate office parks
- ⇒ Exit 10 Improvements in South Nyack
- ⇒ Study the Piermont Line in Rockland for BRT
 - Suffern to Airmont Road
 - NYS Route 59 to Spring Valley Rail Station
- ⇒ NYS Route 59 transit improvements

Long-Term Vision

- ⇒ Commuter Rail
- ⇒ BRT along NYS Routes 303, 9W and 59 in Rockland
- ⇒ BRT to Westchester County Airport
- ⇒ Commuter Rail to Stewart Airport
- ⇒ Direct ferry service to NYC
- ⇒ Improvements on Pascack Valley Line
- ⇒ Albany-Stewart-Rockland-Westchester-NYC rail connection?



**Tappan Zee Bridge
Mass Transit Task Force**

Discussion