

Sandy...after the Storm



Super Storm Sandy's Impact on Nassau County

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Deputy County Executive for Finance



Impact to Residents

■ Residents Affected-

- As of January 10, FEMA had approved 109,918 applications for a total of \$838.9 million of individual and household aid to residents of New York State. Approximately, 32.6% or \$273.7 million for Nassau County residents.

■ Power

- Ninety percent of LIPA's customers (951,000) lost power. Many for up to 21 days.

■ Fuel

- Automotive and heating fuel deliveries were slowed or halted due to:
 - Damaged refineries and fuel transfer stations
 - Storm debris clogging ports
 - Lack of electric power at gas stations from pumping the fuel they had in their tanks before the storm.





Damage Analysis

- Sandy impact analysis by FEMA
 - Total number of flooded, damaged or destroyed structures: 74,736
 - Structures that experienced only stormwater inundation: 17,405
 - Structures with damage totaling less than 50% of their value: 27,178
 - Structures with damage totaling more than 50% of their value: 30,036
 - Destroyed structures: 117





Damage Analysis

- Sandy impact analysis by FEMA
 - Total debris (cubic yards): 3,476,876.32
 - Estimated structural debris (cubic yards): 3,139,330.31
 - Estimated tree debris (cubic yards): 337,546.01





Damage Analysis



Construction and Demolition Debris at Nickerson Beach on Long Beach Island

Vegetative Debris at Eisenhower Park in East Meadow

Nassau County operated according to our FEMA approved Debris Management Plan, which allowed the Department of Public Works to procure the services of outside contractors to begin the recovery process quickly.





Impact to Infrastructure

- Significant damage was inflicted upon County facilities and infrastructure, including:

- Roads & Bridges-

- West Shore Road was rendered impassible when a 500 ft. section of roadbed collapsed due to severe erosion of the seawall.
- The electrical systems of the Bayville & Long Beach Bridges were flooded.



- Traffic Control Systems -

- High winds and tidal storm surge damaged traffic signal heads, control boxes and poles at 500 intersections.

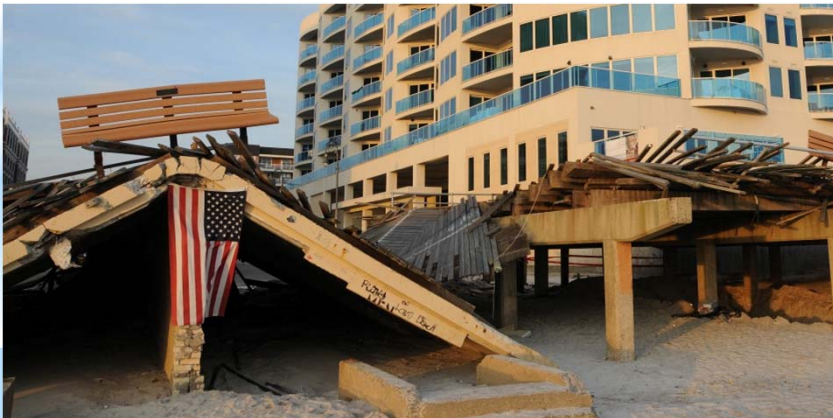


Impact to Infrastructure

■ Significant damage was inflicted upon County facilities and infrastructure, including:

■ Buildings -

- Several County buildings, including the Police Marine Bureau and DPW Lab near Bay Park, were flooded and the contents destroyed.
- Many more buildings throughout the County sustained damages to roofs, HVAC and other systems, as a result of high winds.



■ Park and Preserves-

- Coastal and low laying parks, such as, Nickerson, Wantagh, Bay, North Woodmere, and Cow Meadow suffered damage to natural elements (dunes, trees), buildings, docks, marinas, bulkheads and playgrounds as a result of high winds and the tidal storm surge.



Bay Park Damage

Bay Park Sewage Treatment Plant

- Permitted processing capacity of 70 mgd with actual flow of 50 mgd
- Serves 555,000 residents
- Approx. 25% of the waste process is derived from Commercial sources
- Service territory of 70 sq. miles
- Treated effluent is discharged into Reynolds Channel portion of Hempstead Bay





Bay Park Damage

Bay Park was inundated by a nine foot storm surge flooding the plant and causing massive mechanical failures that shut down the waste treatment process and the pumping capability.



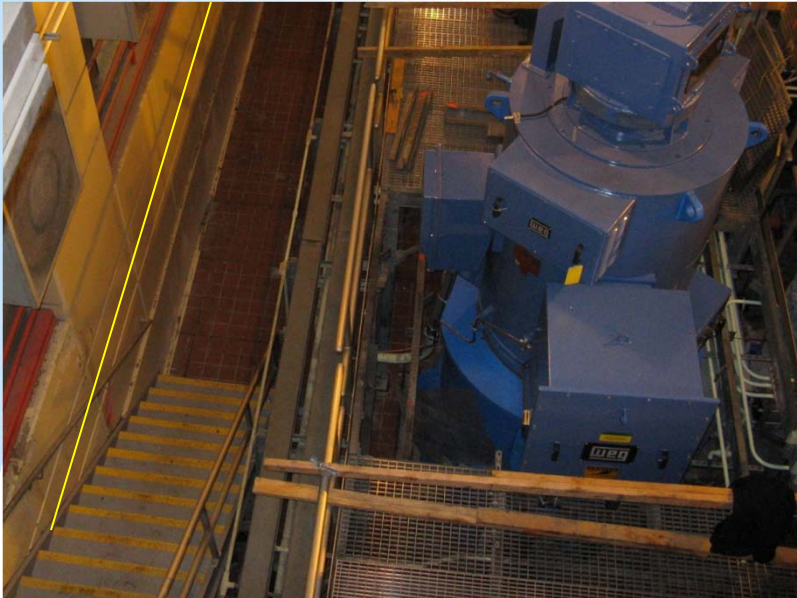
The salt water that flooded the plant has corroded electrical equipment, motors and wiring, which will need to be replaced.

The shutdown resulted in waste accumulating in the pipes for 48 hours after the storm. There were incidents of sewage backups into residences that may have been related to the plant failure.





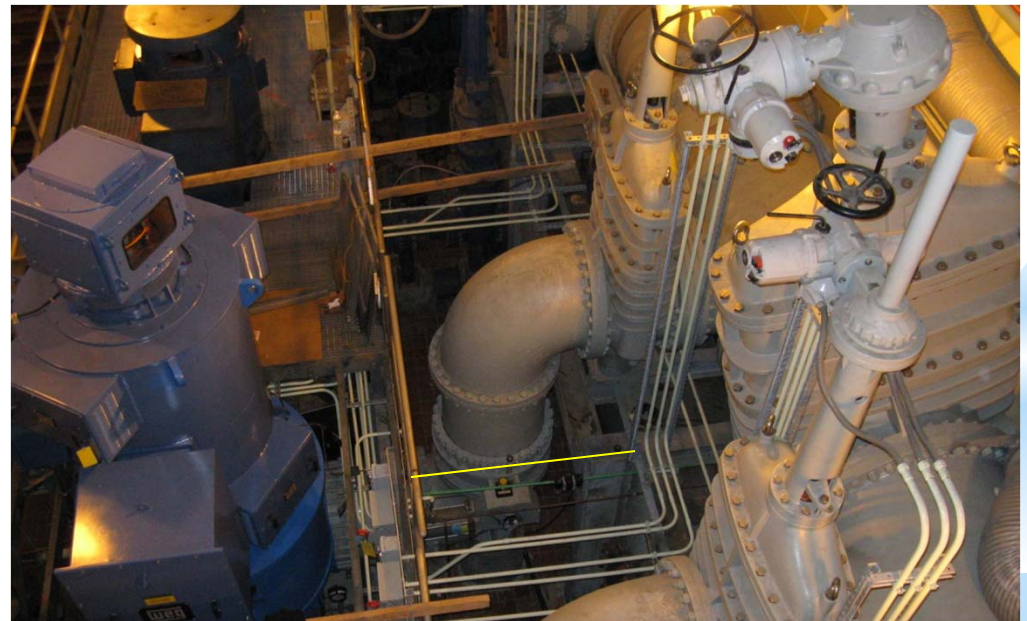
Bay Park Damage



County staff quickly began to pump out the flood waters and engineered temporary emergency repairs that allowed the plant to begin pumping waste in a matter of days. The County began partial treatment of the waste as flow was restored, weeks ahead of the initial estimates.

By mid-December, the plant was operating with the limits of its State Pollutant Discharge Elimination (SPDES) permit.

The County is still making temporary repairs as plans for permanent repairs and storm mitigation improvements are formulated.

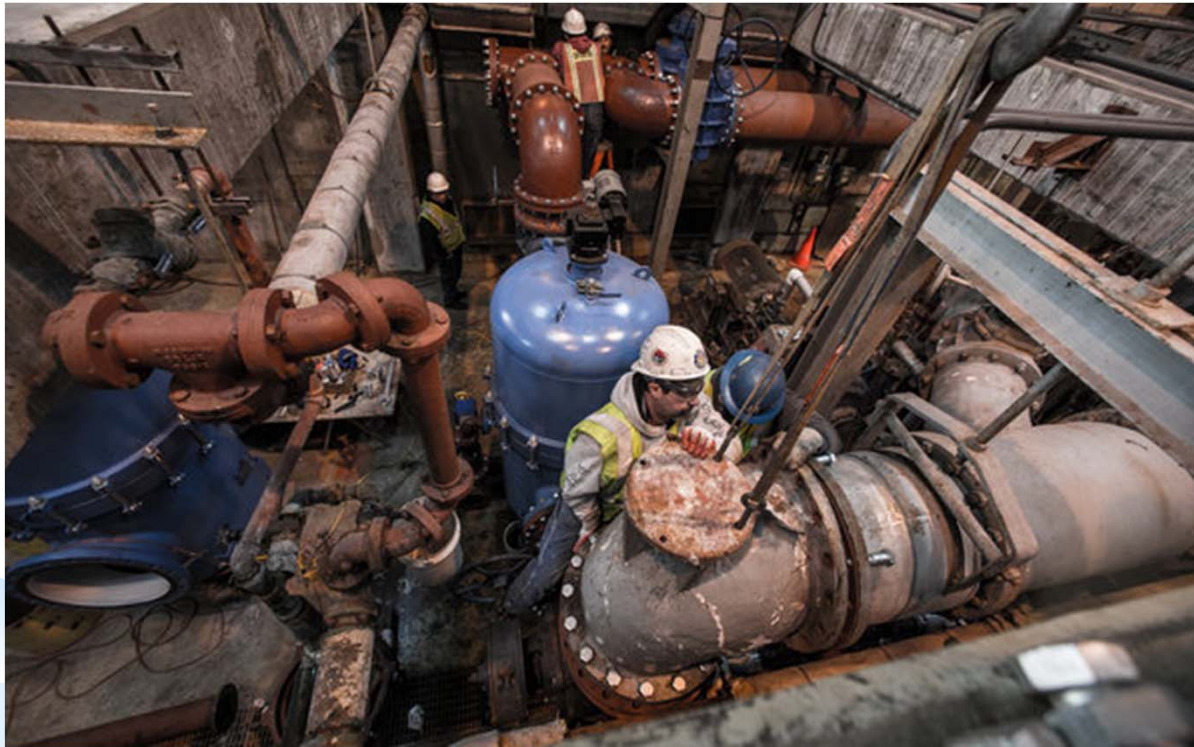




Other Major Damage

■ Wastewater / Sewer -

- In addition to Bay Park STP, 3 of the 4 other wastewater facilities and 30 of the County's 56 sewage pumping stations experienced some damage from Hurricane Sandy.





Recovery Estimates

State-wide

Recovery Cost (in millions)	
Government Response	\$1,627.3
Individual Assistance	\$913.3
Housing	\$9,672.0
Business Impact	\$6,000.0
Health	\$3,081.0
Schools	\$342.7
Transit, Roads & Bridges	\$7,348.1
Parks & Environment	\$793.9
Water, Waste & Sewer	\$1,060.3
Utilities	\$1,504.0
Government Operation Revenue	\$461.5
Subtotal	\$32,804.1
Mitigation	\$9,080.8
Grand Total	\$41,884.9

Nassau County

Recovery Cost (in millions)	
Government Response	\$257.1
Individual Assistance	\$322.2
Housing	\$4,016.0
Business Impact	\$486.8
Health	\$43.0
Schools	\$40.0
Transit, Roads & Bridges	\$188.0
Parks & Environment	\$265.0
Water, Waste & Sewer	\$898.5
Utilities	N/A
Government Operation Revenue	\$86.0
Subtotal	\$6,602.6
Mitigation	\$2,620.2
Grand Total	\$9,222.8



FEMA and Recovery Funds

■ Federal Disaster Assistance-

- FEMA, under the authority provided in the Stafford Act, reimburses states and municipalities no less than 75% of eligible disaster preparation, response and repair costs for federally declared disasters.
- In disasters where these costs exceed a statutory per capita threshold, the federal assistance increases to 90% (44 C.F.R. § 206.47).
- The non-federal share is borne by the affected state and local government. In 2011, New York State assumed the entire non-federal share of 25% for Hurricane Irene.



← Eligibility Pyramid

FEMA

Public Assistance Process →





Financial Impact

The Stafford Act provides FEMA with mechanisms to assist highly-impacted and financially-stressed governments.

- Immediate Needs Funding (INF) - INF provides an upfront cash infusion based on the estimated recovery costs. An equivalent of up to 50% of the debris removal and protective measures costs is provided initially. However, no other funding may be advanced for any other category of work until these costs are fully documented.
- Expedited Project Worksheets (PWs) - Alternatively, FEMA can also expedite the obligation of funds based on estimated tied to individual reimbursable projects. This provides a smaller measure of cash flow relief, but requires some documentation of costs.

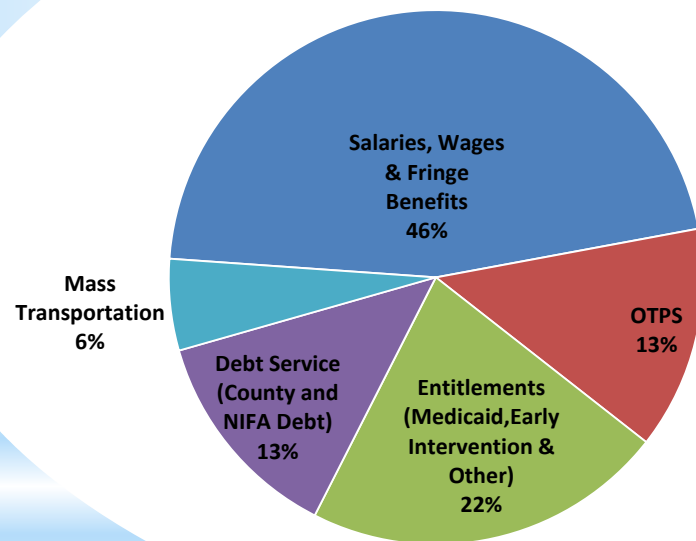
In either alternative, the County still assumes a non-federal match is required. For financially stressed governments, such as Nassau County, the prospect of a 25% or even 10% match will prove to be a challenge.



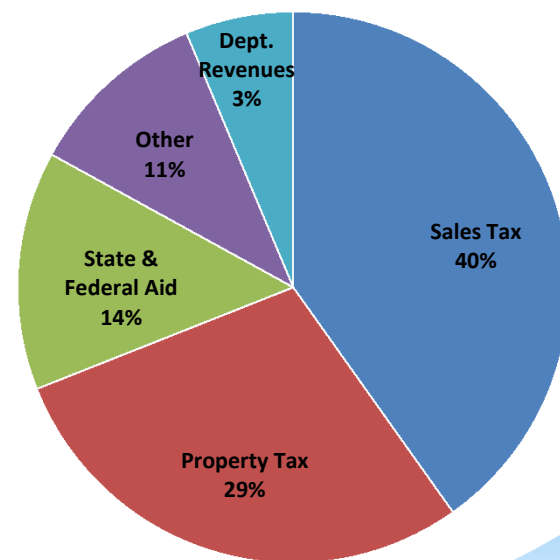
Financial Impact

2013 Budget
\$2.8 Billion

Expenses



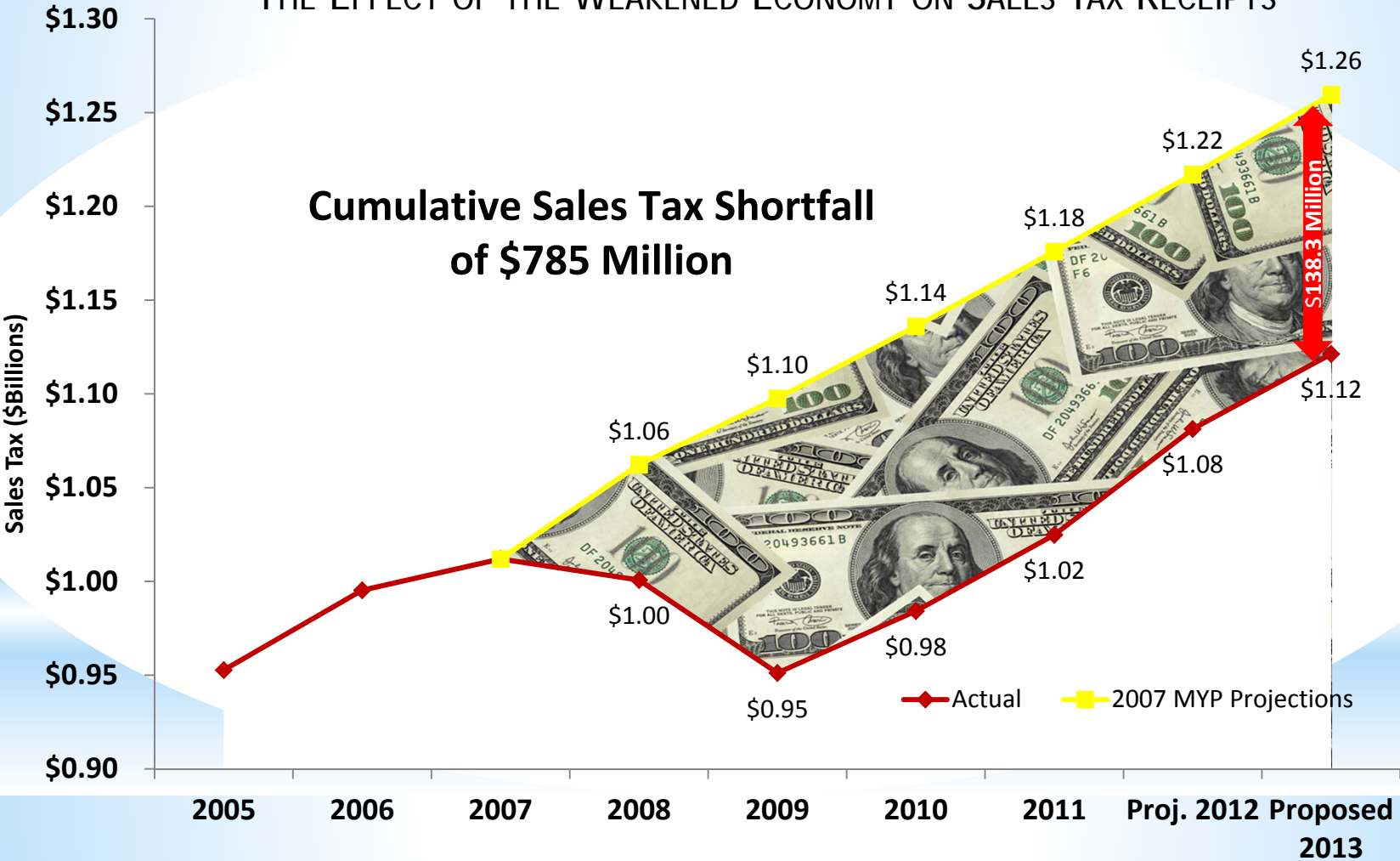
Revenue



Financial Impact



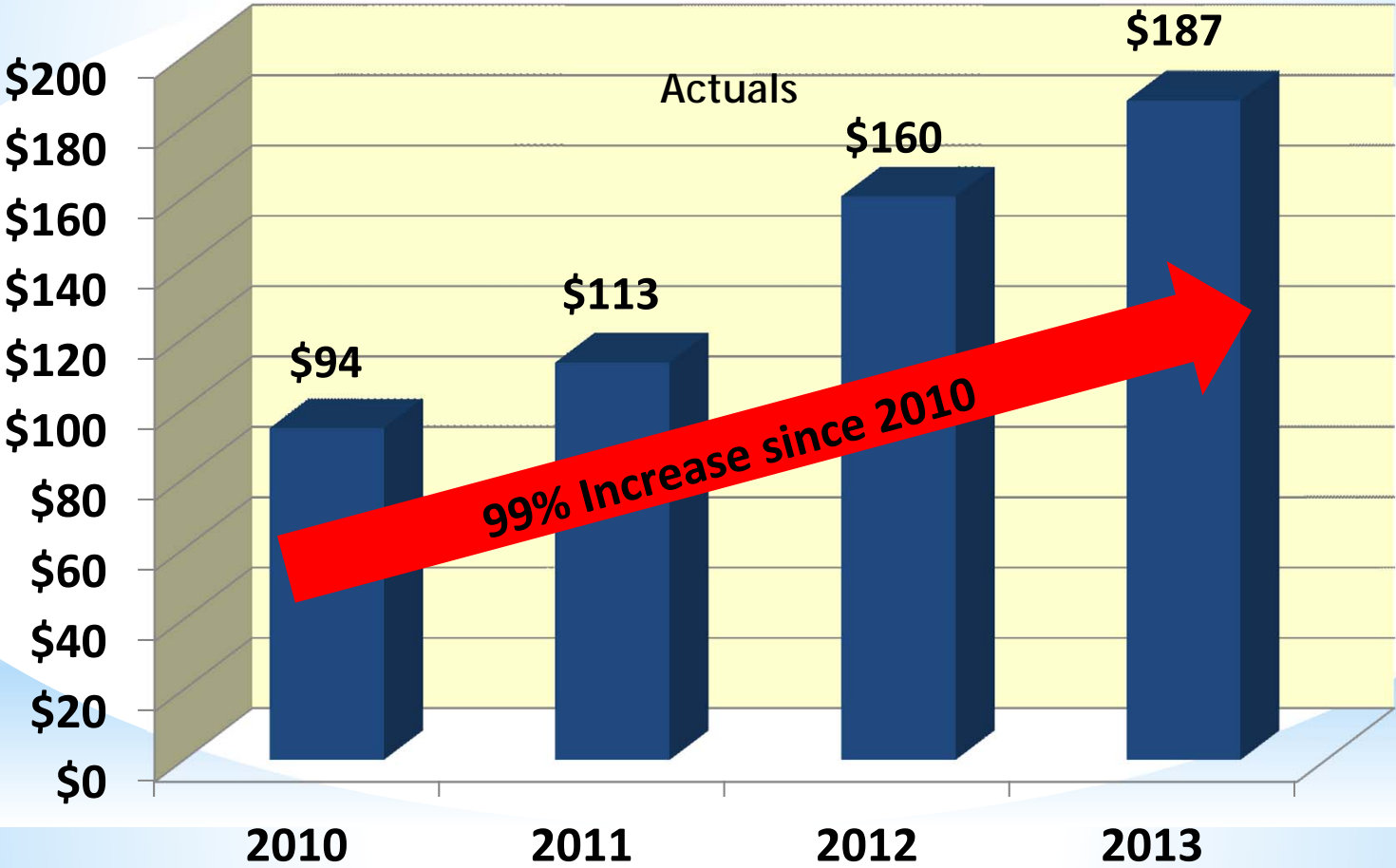
THE EFFECT OF THE WEAKENED ECONOMY ON SALES TAX RECEIPTS





Financial Impact

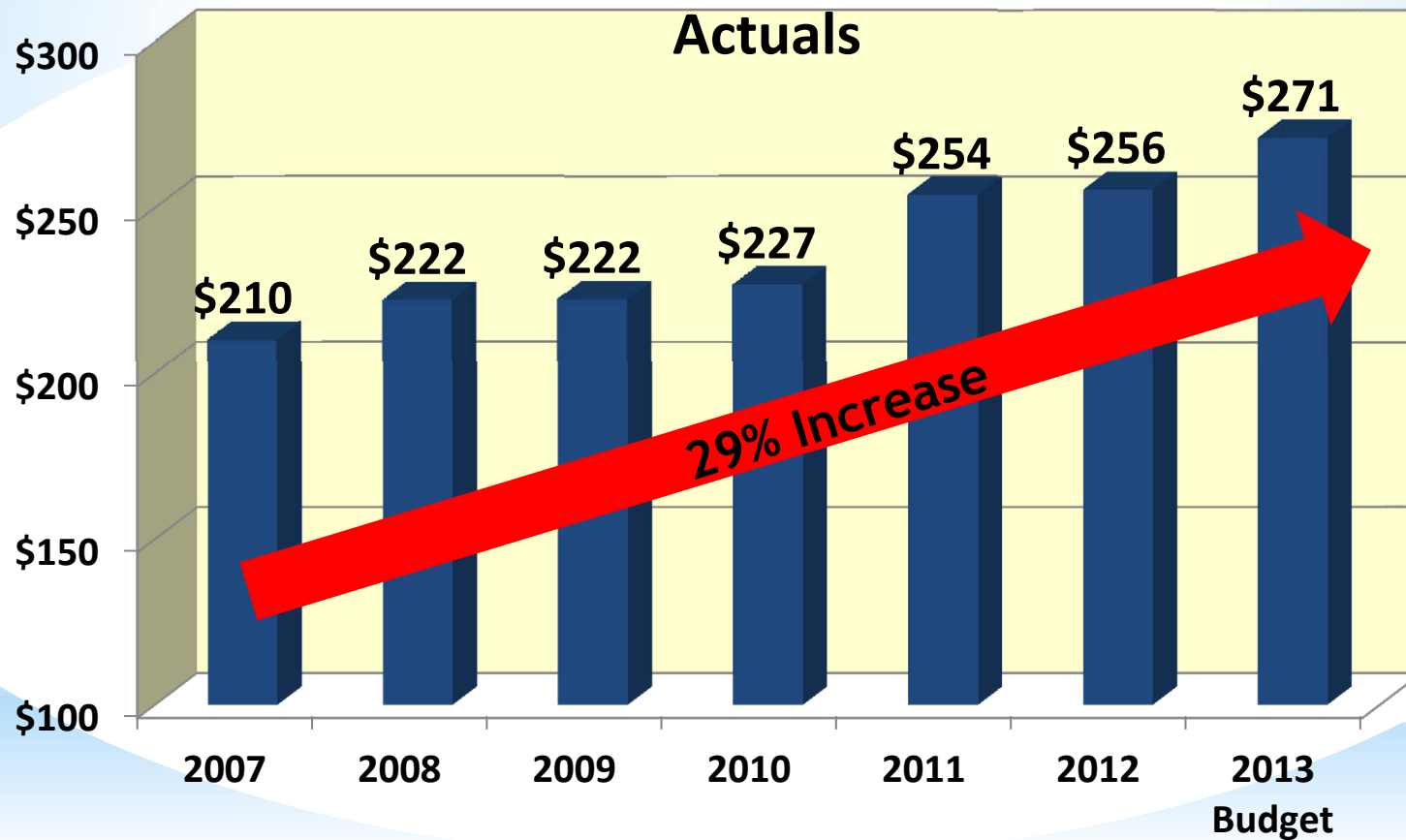
State Mandated Pension Bill





Financial Impact

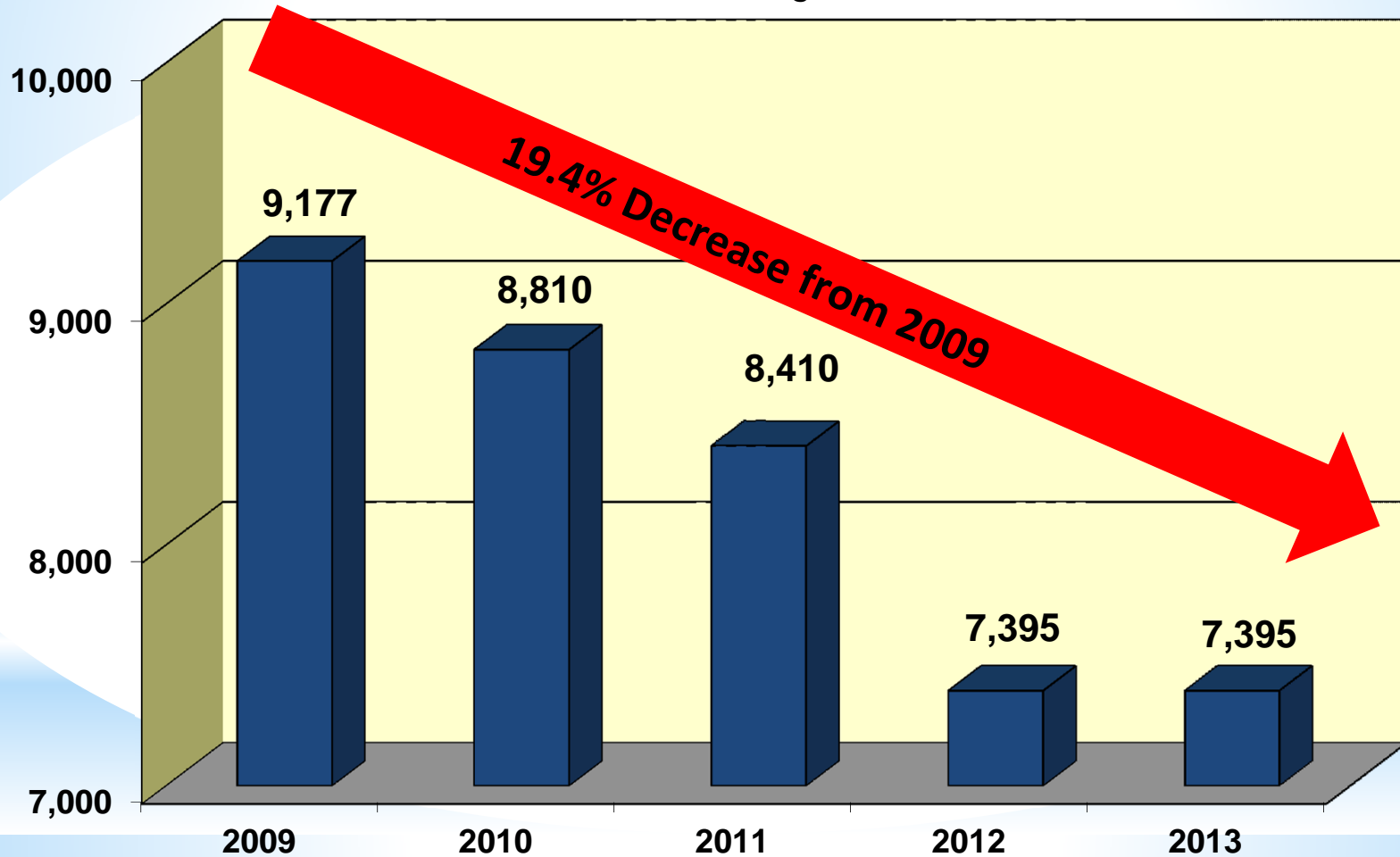
Health Care Costs





Financial Impact

Workforce Management





Financial Impact

- Workforce Management
 - County budgeted headcount is the lowest in several decades
 - Imposition of a wage freeze since March 2011
 - Savings from additional layoffs and attrition
 - Savings from Police precinct consolidation



Before and After



These images, courtesy of Google and NOAA, show the effects of Sandy on coastal communities. The post storm picture was taken on November 4, 2012.

The satellite images depict the Sands Atlantic Beach and adjoining beach clubs in the East Atlantic Beach section of the Long Beach barrier island.