

AUTONOMOUS VEHICLES FINANCIAL AND BUDGETARY IMPLICATIONS FOR CITIES

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urbanism

NEXT

AUGUST 2017

THE IMPACTS OF AUTONOMOUS VEHICLES AND E-COMMERCE

on Local Government Budgeting and Finance

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Accommodation or Adaptation

“...Some cities face roadblocks in the form of other levels of government that override or preempt local actions...”

Workforce





An aerial photograph of a multi-lane highway with traffic. Overlaid on the image are numerous yellow concentric circles of varying radii, centered on various vehicles. These circles represent the range of sensors (like radar or lidar) on the vehicles, illustrating the concept of 'New data types' in autonomous driving. The circles overlap significantly, showing the complex data environment a vehicle would experience.

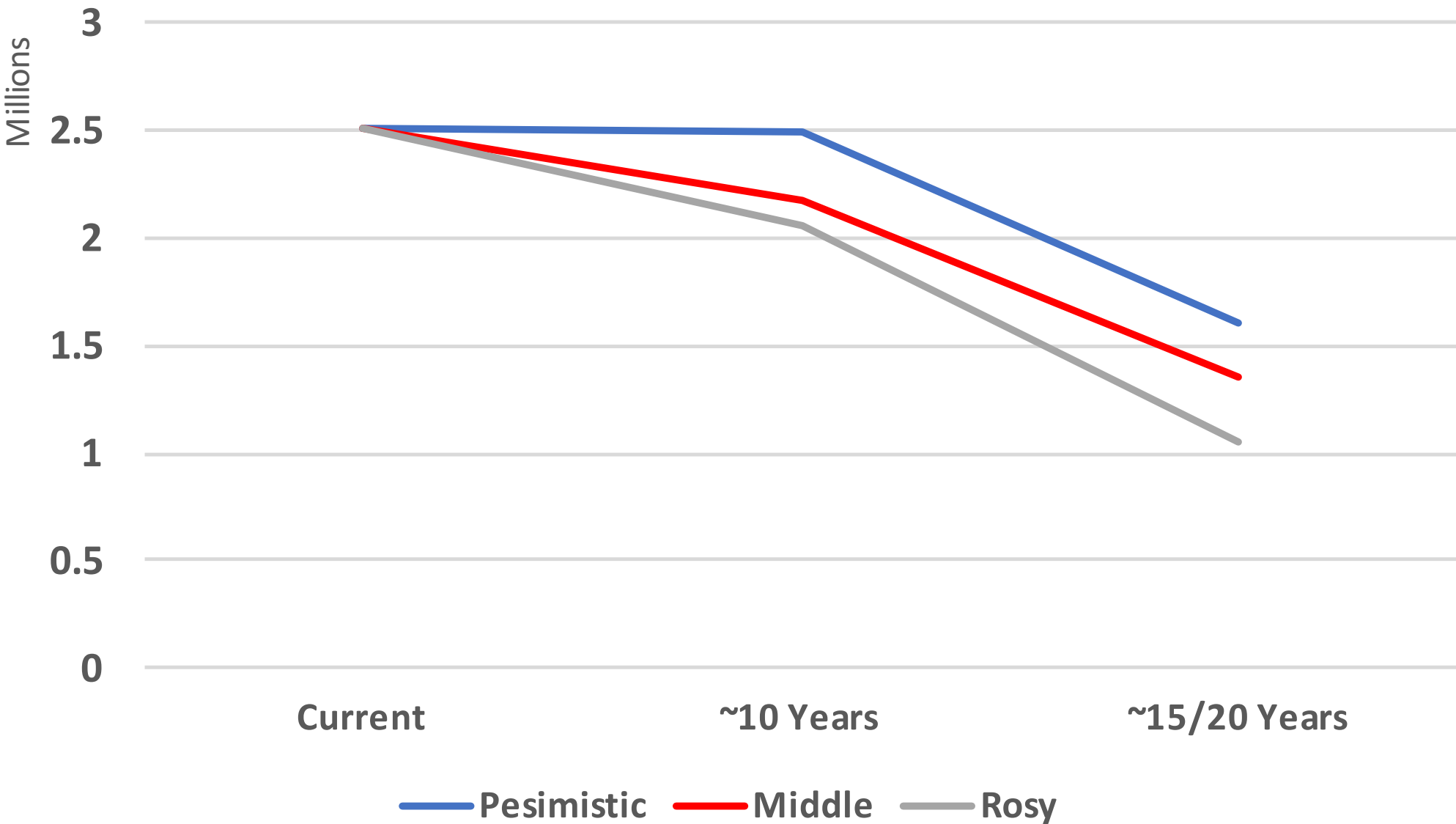
New data types
New employee skills
New privacy concerns
New opportunities













An aerial photograph of Asheville, North Carolina, taken during the "blue hour" of twilight. The city's skyline is visible, featuring a mix of modern and historic architecture. A prominent tall, dark skyscraper stands out on the right side of the frame. The foreground is filled with dense green trees and lower-rise buildings. In the background, the Blue Ridge Mountains are silhouetted against a sky with soft, golden light from the setting or rising sun. The overall mood is serene and scenic.

Asheville, North Carolina

Population: 89,248 (2014)

Scenario Comparisons



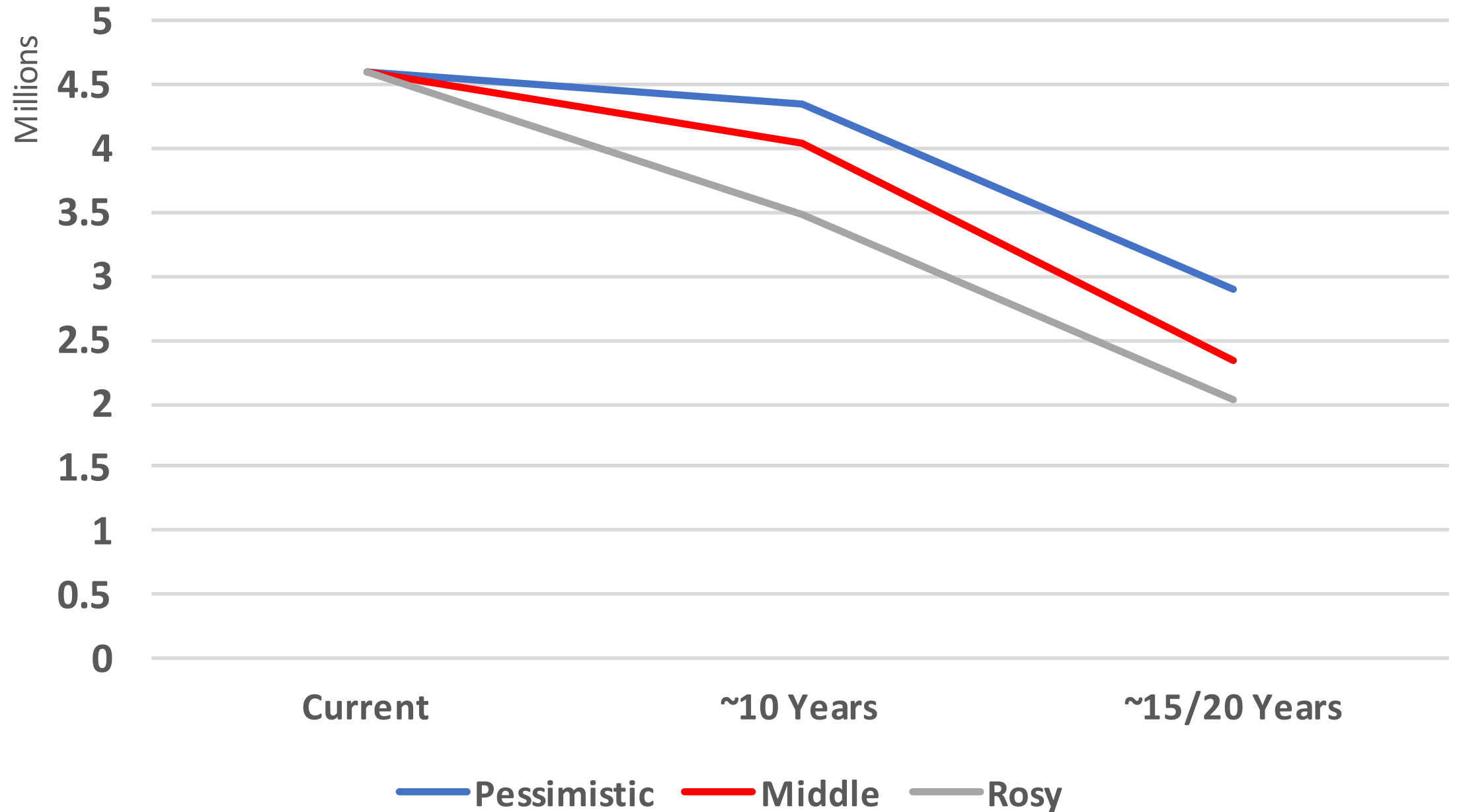
<u>Assumptions Summary</u>		Current	~10 Years	~15/20 Years	
Rosy					
Capital Costs Increase	20%				
Wage Escalation for Monitoring	120%				
Wage Escalation for Data Analysis	140%				
# of Truck Monitors		0	1	1	
# of Data Analysts		0	1	1	
# of Trucks (Packers)		2	2	1	
# of Trucks (Automated)		7	5	3	
Middle					
Capital Costs Increase	30%				
Wage Escalation for Monitoring	140%				
Wage Escalation for Data Analysis	150%				
# of Truck Monitors		0	1	1	
# of Data Analysts		0	1	1	
# of Trucks (Packers)		2	2	2	
# of Trucks (Automated)		7	6	5	
Pessimistic					
Capital Costs Increase	60%				
Wage Escalation for Monitoring	140%				
Wage Escalation for Data Analysis	150%				
# of Truck Monitors		0	1.75	1.75	
# of Data Analysts		0	1	2	
# of Trucks (Packers)		2	2	2	
# of Trucks (Automated)		7	6	6	















Cary, North Carolina

Population: 148,333 (2014)

Scenario Comparisons



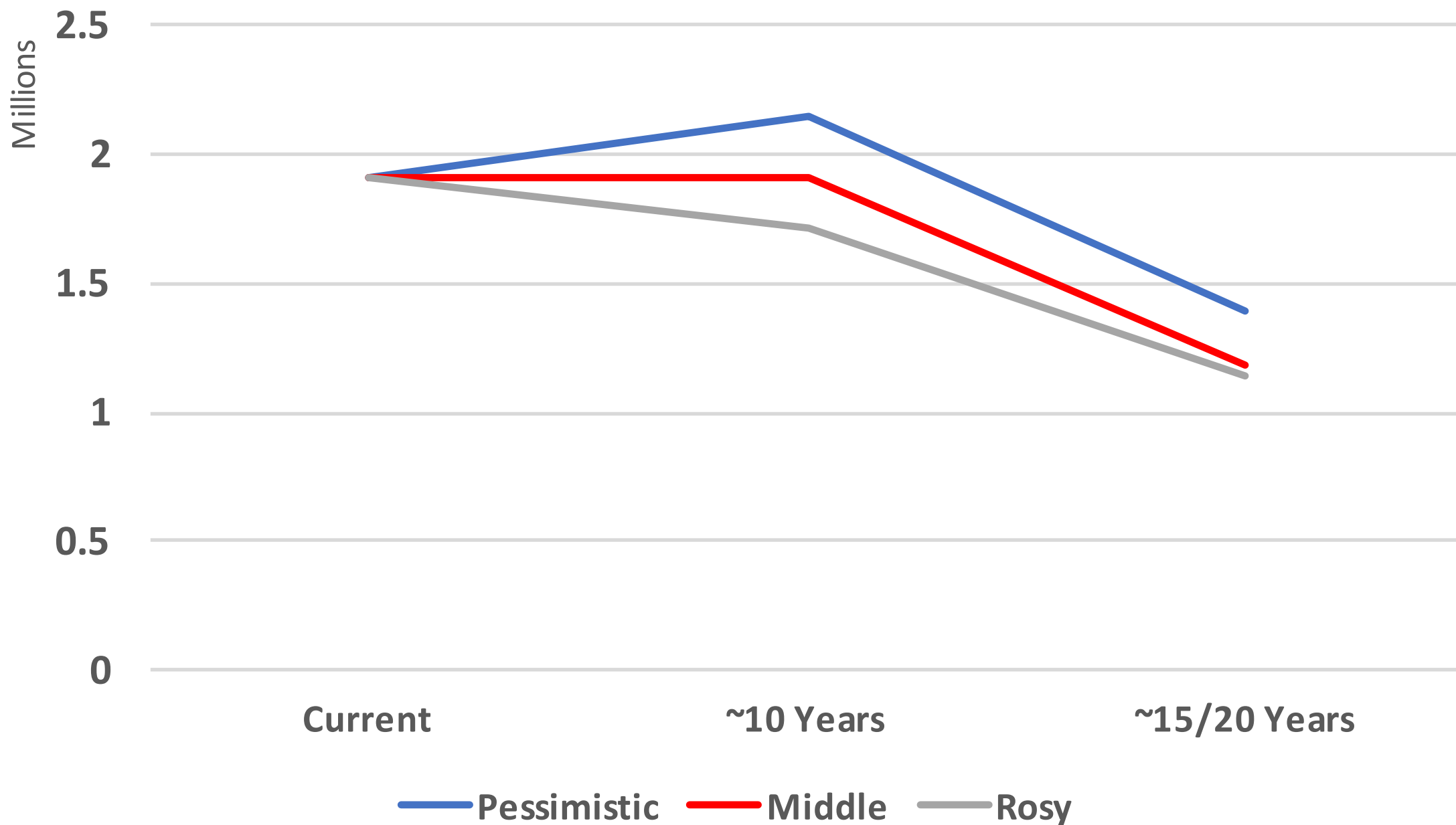
<u>Assumptions Summary</u>		Current	~10 Years	~15/20 Years	
Rosy					
	Capital Costs Increase	20%			
	Wage Escalation for Monitoring	120%			
	Wage Escalation for Data Analysis	140%			
	# of Truck Monitors	0	1	1	
	# of Data Analysts	0	1	1	
	# of Trucks (Packers)	2	1	1	
	# of Trucks (Automated)	11	9	6	
Middle					
	Capital Costs Increase	30%			
	Wage Escalation for Monitoring	140%			
	Wage Escalation for Data Analysis	150%			
	# of Truck Monitors	0	1	1	
	# of Data Analysts	0	1	1	
	# of Trucks (Packers)	2	2	2	
	# of Trucks (Automated)	11	10	8	
Pessimistic					
	Capital Costs Increase	60%			
	Wage Escalation for Monitoring	140%			
	Wage Escalation for Data Analysis	150%			
	# of Truck Monitors	0	1.75	1.75	
	# of Data Analysts	0	1	2	
	# of Trucks (Packers)	2	2	2	
	# of Trucks (Automated)	11	10	9	















Chapel Hill, North Carolina

Population: 59,758 (2014)

Scenario Comparisons



<u>Assumptions Summary</u>			Current	~10 Years	~15/20 Years	
Rosy						
	Capital Costs Increase	20%				
	Wage Escalation for Monitoring	120%				
	Wage Escalation for Data Analysis	140%				
	# of Truck Monitors		0	1	1	
	# of Data Analysts		0	1	1	
	# of Trucks (Packers)		7	1	1	
	# of Trucks (Automated)		0	4	3	
Middle						
	Capital Costs Increase	30%				
	Wage Escalation for Monitoring	140%				
	Wage Escalation for Data Analysis	150%				
	# of Truck Monitors		0	1	1	
	# of Data Analysts		0	1	1	
	# of Trucks (Packers)		7	4	2	
	# of Trucks (Automated)		0	2	2	
Pessimistic						
	Capital Costs Increase	60%				
	Wage Escalation for Monitoring	140%				
	Wage Escalation for Data Analysis	150%				
	# of Truck Monitors		0	1.75	1.75	
	# of Data Analysts		0	1	2	
	# of Trucks (Packers)		2	2	2	
	# of Trucks (Automated)		11	10	9	

Where are cost reductions
coming from?

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