

# **The Economic Impact of the Constitution Pipeline**

**January, 2013**

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**Constitution Pipeline, LLC**

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## EXECUTIVE SUMMARY

The Constitution Pipeline is a proposed interstate natural gas transmission pipeline that runs through five counties between New York and Pennsylvania. The plan is to connect downstate New York City (NYC) and New England (Boston area) markets with Marcellus Shale deposits of natural gas from northern Pennsylvania. The Constitution Pipeline Company, LLC (CPC) projects to spend about \$683 million during the initial three year planning and building process. Some of the investment will be spent on specialized labor and materials brought in from outside the region, leaving approximately \$188 million (28%) of the investment to directly benefit the five county region.

CPC plans to lay approximately 122 miles of 30" pipeline – roughly 81% in New York and 19% in Pennsylvania – and create capacity to deliver up to 650,000 dekatherms of natural gas to parts of downstate New York State (NYS) and some areas in New England. The project will involve building two meter stations – one in New York, and one in Pennsylvania. Constitution has reached an agreement with Iroquois Gas Transmission for Iroquois to modify its existing Wright compressor station to provide the compression needed at the terminus of the pipeline.

The Center for Governmental Research (CGR) was engaged to calculate the economic impact the project could have on the five county region. CGR developed estimates of changes in employment and regional earnings during the development and construction phase as well as the operational phase that will commence post construction. The economic impact during the construction phase could result in:

- Approximately 2,400 FTE new jobs in the region
- \$96 million in new labor income in the region
- \$14 million in new sales and income tax revenue in the region

Over 80% of the jobs and income produced during the *construction phase* will likely benefit in the four NYS counties. Once operational the pipeline's economic impact could result in:

- Nearly 12 FTE new permanent jobs in the region
- \$700 thousand in new labor income in the region

- \$13.1 million in new sales, income and property tax revenue for the region and states

## Acknowledgements

CGR would like to thank the staff at Constitution Pipeline Company, LLC for their help in gathering data and putting it in context. Matthew Swift, Project Manager for Constitution Pipeline Company, was an invaluable resource for financial information and detailed project descriptions.

## Staff Team

Project Directors, Kent Gardner, Ph.D. and Scott F. Sittig, M.P.P. collaborated on the analysis and generating the final report.

Principal project support was provided by Mike Silva, Research Associate. Mr. Silva handled draft reporting, data entry, primary analysis and provided methodological support.

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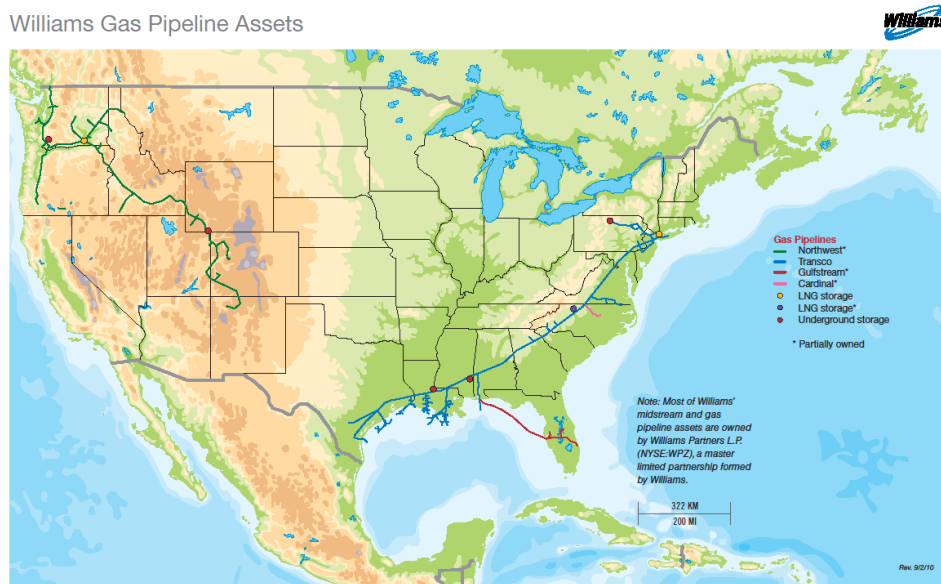
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## INTRODUCTION

Climate change concerns and the risks of dependence on foreign oil have driven a steady expansion in the use of natural gas. New extraction technology, particularly the hydraulic fracturing technique pioneered in the Barnett Shale, has accelerated this trend by dramatically increasing supply. This rapid expansion of supply and associated reduction in cost has spurred new demand for natural gas pipeline transmission. One new opportunity, and the subject of this report, is a new pipeline being developed in northern Pennsylvania (PA) that will create capacity to transport natural gas into downstate NYS and some New England markets.

The Constitution Pipeline Company, LLC (CPC) is a joint venture of Williams Partners LP (NYSE: WPZ), an energy infrastructure company, Cabot Oil & Gas Corporation (NYSE: COG), an independent gas producer, and Piedmont Natural Gas (NYSE: PNY). With a 51% stake<sup>1</sup> in the project, Williams expects to create the capacity to transport 650,000 dekatherms of natural gas per day which is the equivalent of serving the energy needs of approximately 3 million homes per day. Williams currently provides natural gas transportation through 15,000 miles of interstate natural gas pipelines, delivering about 14 percent of the natural gas consumed in the US.<sup>2</sup>

**Figure 1: Williams Gas Company Current Infrastructure**



<sup>1</sup> <http://www.ogj.com/articles/2012/04/cabot-williams-sign-agreements-for-constitution-pipeline.html>

<sup>2</sup> <http://co.williams.com/williams/operations/gas-pipeline/>

Cabot is a natural gas producer, whose operations include Eagle Ford Shale in South Texas, Marmaton in Oklahoma, and Marcellus Shale in Pennsylvania.<sup>3</sup> As of December 31, 2011, Cabot had 3,033 Bcfe (Billions of cubic feet equivalents) in total reserves, and Marcellus alone produced 600 Mmcf per day that year.<sup>4</sup> Piedmont is a distributor of natural gas to residential, commercial and utility customers in the Carolinas and Tennessee<sup>5</sup>. The proposed project will connect Cabot's supply of natural gas from the Marcellus Shale to New York and Boston area markets.

**Figure 2: Cabot Oil & Gas Natural Gas Deposits**



A subsidiary of Williams, the CPC will build its interstate pipeline beginning in Susquehanna County, PA and ending in Schoharie County, NY. In all, approximately 122 miles of 30" pipeline will connect natural gas sources in Susquehanna County with the Iroquois Gas Transmission and Tennessee Gas Pipeline systems in Schoharie County. The pipeline will run through five counties including Chenango, Delaware and Broome in New York State in addition to Schoharie and Susquehanna. The project is expected to cost \$683 million and take approximately three years to complete. Almost a third of the investment (\$219m or 32%) will be made in NY and PA but only \$188m (28%) will be invested directly in the five

<sup>3</sup> <http://www.cabotog.com/history.html>

<sup>4</sup> <http://www.cabotog.com/pdfs/COG-2011-AR.pdf>

<sup>5</sup> <http://piedmontng.com/about/aboutpng/>



county region. A map of the proposed route of the pipeline through each of the five counties can be found in the appendix of this report.<sup>6</sup>

Table 1 enumerates the length of pipeline installation and the location of the meter stations by county.

**Table 1: Constitution Pipeline Project**

<b>TABLE 1: Constitution Pipeline Project</b>	
<b>County</b>	<b>Approx. Miles</b>
Broome, NY	16.8
Chenango, NY	8.5
Delaware, NY	42.9
Schoharie, NY	31.3
Susquehanna, PA	23.2
<b>TOTAL</b>	<b>122.6</b>
<b>Stations</b>	<b>County</b>
Greenfield Meter Station	Susquehanna, PA
Greenfield Meter Station	Schoharie, NY

Building the pipeline will result in new temporary and permanent jobs for the region during the construction phase of the project. The ongoing operation of the pipeline will result in additional permanent jobs. The purpose of this report is to quantify the economic and fiscal impact of the Constitution Pipeline in terms of temporary construction and full-time permanent jobs for the five counties in the region.

Further details about the project and information on the project timeline and progress can be accessed at the project website:

<http://constitutionpipeline.com/>.

## METHODOLOGY

The economic impact of the pipeline investment on the region will be realized in two phases. The first phase consists of the preparation, planning and construction of the pipeline and is scheduled to occur over a three year time horizon. The physical construction of the pipeline is only one component of the first phase and is expected to occur during a nine month period. It is during this part of phase one that the highest number of new jobs will be created. The second phase consists of the ongoing operation of the pipeline after the three year development process is complete.

<sup>6</sup> Additional and more detailed maps can be obtained by going to the project website at <http://constitutionpipeline.com/maps/>.

Economic impact is modeled as the change in employment, labor income and tax revenue that is generated from a change in the economic activity of a region. Employment and income generated from the construction phase of a project are reported separately due to the temporary nature of the investment. The employment and income from the operational phase represents a permanent change in the size of the regional economy. CPC provided the investment estimates and the operational employment and income figures for the analysis.

Labor for the project will be drawn from both inside and outside the region. For instance, skilled craftsmen may be brought into the region for certain parts of the project while local laborers will be used for other parts. Additionally, some materials and other professional support will be purchased from outside the region. Using labor and professional support from outside the region is the primary reason that not all the money invested in the project will benefit the five counties.

When estimating the impact of spending for labor, we assume that wages are paid to laborers at their place of work but spent at their place of residence. Our estimates assume that the majority of laborers working on site would live within the region. As an example, if a worker from Binghamton is working on the project, Broome County and hence the region benefits from the investment in payroll. However, if the worker lives in Albany or Syracuse or Cleveland, then the economic benefit “leaks” from the region.

The economic benefits of the Constitution Pipeline were determined using the MIG Group’s IMPLAN input-output model. The IMPLAN database consists of two major parts: 1) a national-level technology matrix and 2) estimates of sectorial activity for final demand, final payments, industry output and employment for each county in the U.S. along with state and national totals. Data are updated annually. IMPLAN estimates the direct, indirect and induced impacts of economic change through the use of multipliers, and estimates the impact of a change in demand on 440 different industries/sectors of the economy. IMPLAN’s algorithms allow CGR to construct a unified, multi-county model of the impact region.

## ECONOMIC IMPACTS

The economic analysis calculates impact for the construction and operational phases of the project. New jobs, labor income and tax revenues are generated from both the *direct* investment in the project and the *spillover* impacts (indirect + induced) that result from the direct investment. Both the direct and spillover impacts are summarized in

tables within this section and detail is provided on the projected impact for each state. The appendix provides additional tables that break out the impact by county.<sup>7</sup>

## Direct Impact

CPC's direct economic impacts on the regional economy (measured by CGR in terms of jobs and income) are a result of its temporary construction and ongoing operational activity. For example, investing in the construction of the pipeline will generate temporary jobs for both skilled and unskilled labor resulting in a direct impact. Additionally, employing staff to run the pipeline once it is built results in an ongoing direct impact to the economy where those workers live.

The pipeline's direct economic activity will result from the following:

- Payroll expenditures for construction staff;
- Investment in materials and supplies to build the pipeline;
- Purchase of land rights;
- Project team and inspector travel; and
- Payroll expenditures for operational staff.

## Spillover Impact

Spillover expenditures result from the subsequent spending of the recipients of the direct expenditures. For example, a vendor company that supplies a product or service to the CPC uses the proceeds of that sale to make expenditures of its own, typically for both materials and labor (some temporary and some permanent). Similarly, employees of CPC spend their wages, which become income for other businesses. These types of expenditures are categorized as spillover. Specific examples of types of spillover impacts include:

- CPC buys materials from local businesses. The local businesses will, in turn, have income to hire workers. Those workers will then spend money in the community. The spending of the businesses affected by the construction, and also the spending of the employees of those businesses, is considered spillover.

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<sup>7</sup> County level detail is based on CGR's best estimates of worker flow, worker capacity, and project timeframe among other factors.

## Construction Phase

During the construction phase of the project the CPC is estimated to deliver the equivalent of about 2,400 annual FTE jobs and about \$96 million of income to the region's economy. Nearly 1,400 of these jobs will be directly related to building the pipeline. Jobs will include a mix of nearly 900 skilled and unskilled laborers in the construction industry with the balance being generated in other industries that support pipeline construction projects. About 1,000 jobs will result from spillover activity generated during the building of the pipeline with 50% of them related to the construction industry. Table 2 provides an overview of the estimated economic benefits to the region.

**Table 2: Economic Impact – Construction Phase**

	Direct	Spillover	Total
Employment (thousand annual FTEs)	1.4	1.0	<b>2.4</b>
Construction (thousand annual FTEs)	0.9	0.5	<b>1.4</b>
Other (thousand annual FTEs)	0.5	0.5	<b>1.0</b>
Income (\$ millions)	\$60.2	\$35.4	<b>\$95.6</b>
Construction (\$ millions)	\$41.5	\$18.2	<b>\$59.7</b>
Other (\$ millions)	\$18.7	\$17.2	<b>\$35.9</b>

It is estimated that the project will also generate about \$5 million of income tax revenues and about \$9 million in sales tax revenues, the majority accruing to NYS. Table 3 summarizes the estimated fiscal impact during the construction phase.

**Table 3: Fiscal Impact - Construction Phase**

	Direct	Spillover	Total
State Income Tax (\$ millions)	\$4.0	\$1.2	<b>\$5.2</b>
New York (\$ millions)	\$4.0	\$1.2	<b>\$5.2</b>
Pennsylvania (\$ millions)	\$0.0	\$0.0	<b>\$0.0</b>
Sales Tax (\$ millions)	\$8.0	\$0.8	<b>\$8.8</b>
New York (\$ millions)	\$6.8	\$0.7	<b>\$7.5</b>
Pennsylvania (\$ millions)	\$1.2	\$0.1	<b>\$1.3</b>

## Operational Phase

It is estimated that once operational the Constitution Pipeline will employ seven people. The investment in these employees has the potential to spur additional employment of five annual FTE jobs.

The Constitution Pipeline is also estimated to produce about \$700 thousand of new labor income for the states resulting in a potential of

\$100 thousand of income tax revenue annually. Additionally, a new annual stream of over \$13 million in property tax revenue is expected for the counties as a result of the pipeline.

**Table 4: Economic and Fiscal Impact – Operational Phase**

	Direct	Spillover	Total
Employment (annual FTEs)	7	5	<b>12</b>
Income (\$ millions)	\$0.5	\$0.2	<b>\$0.7</b>
State Income Tax (\$ millions)	\$0.1	\$0.0	<b>\$0.1</b>
Sales Tax (\$ millions)	\$0.0	\$0.0	<b>\$0.0</b>
Property Tax (\$ millions)	\$13.0	\$0.0	<b>\$13.0</b>

## SUMMARY

The economic impact of the proposed Constitution Pipeline was determined using the IMPLAN input-output model. During this three year project approximately 122 miles of pipeline will be installed in New York and Pennsylvania. In addition to the pipeline, two meter stations – one in New York and one in Pennsylvania - will be built. Based on the proposed project expenditures the economic impact for the region during the construction phase includes:

- The equivalent of about 2,400 FTE jobs in the region, with 1,400 directly in the construction industry
- \$96 million new income in the region
- \$14 million in sales and income tax revenue in the region

Once operational the pipeline's economic impact will include:

- 12 jobs in the region
- \$700 thousand in new income in the region
- \$13.1 million in sales, income and property tax revenue in the region

## APPENDIX

### Economic and Fiscal Impact – By County

The county level impacts provided below are based upon the summary tables 2-4 provided in the report.

**NOTE:** The allocation of employment, income and tax revenue across individual counties is impossible to estimate with precision because differences in labor supply, the location of subcontractors, housing differences and the nature of retail markets will all influence the locus of the economic effect. These should be considered “best guess” estimates only.

**Table 5: Economic and Fiscal Impact – Construction Phase  
Broome, NY**

	Direct	Spillover	Total
Employment (thousand annual FTEs)	0.2	0.2	<b>0.4</b>
Construction (thousand annual FTEs)	0.1	0.1	<b>0.2</b>
Other (thousand annual FTEs)	0.1	0.1	<b>0.2</b>
Income (\$ millions)	\$9.1	\$5.2	<b>\$14.3</b>
Construction (\$ millions)	\$6.6	\$2.9	<b>\$9.5</b>
Other (\$ millions)	\$2.5	\$2.3	<b>\$4.8</b>
State Income Tax (\$ millions)	\$0.8	\$0.2	<b>\$1.0</b>
Sales Tax (\$ millions)	\$1.2	\$0.1	<b>\$1.3</b>

**Table 6: Economic and Fiscal Impact – Construction Phase  
Chenango, NY**

	Direct	Spillover	Total
Employment (thousand annual FTEs)	0.1	0.0	<b>0.1</b>
Construction (thousand annual FTEs)	0.1	0.0	<b>0.1</b>
Other (thousand annual FTEs)	0.0	0.0	<b>0.0</b>
Income (\$ millions)	\$5.4	\$3.0	<b>\$8.4</b>
Construction (\$ millions)	\$4.1	\$1.8	<b>\$5.9</b>
Other (\$ millions)	\$1.3	\$1.2	<b>\$2.5</b>
State Income Tax (\$ millions)	\$0.5	\$0.1	<b>\$0.6</b>
Sales Tax (\$ millions)	\$0.6	\$0.1	<b>\$0.7</b>

**Table 7: Economic and Fiscal Impact – Construction Phase  
Delaware, NY**

	Direct	Spillover	Total
Employment (thousand annual FTEs)	0.4	0.3	<b>0.7</b>
Construction (thousand annual FTEs)	0.2	0.1	<b>0.3</b>
Other (thousand annual FTEs)	0.2	0.2	<b>0.4</b>
Income (\$ millions)	\$18.3	\$11.1	<b>\$29.4</b>
Construction (\$ millions)	\$11.9	\$5.2	<b>\$17.1</b>
Other (\$ millions)	\$6.4	\$5.9	<b>\$12.3</b>
State Income Tax (\$ millions)	\$1.4	\$0.4	<b>\$1.8</b>
Sales Tax (\$ millions)	\$2.9	\$0.3	<b>\$3.2</b>

**Table 8: Economic and Fiscal Impact – Construction Phase  
Schoharie, NY**

	Direct	Spillover	Total
Employment (thousand annual FTEs)	0.3	0.2	<b>0.5</b>
Construction (thousand annual FTEs)	0.2	0.1	<b>0.3</b>
Other (thousand annual FTEs)	0.1	0.1	<b>0.2</b>
Income (\$ millions)	\$15.7	\$9.2	<b>\$24.9</b>
Construction (\$ millions)	\$10.9	\$4.8	<b>\$15.7</b>
Other (\$ millions)	\$4.8	\$4.4	<b>\$9.2</b>
State Income Tax (\$ millions)	\$1.3	\$0.3	<b>\$1.6</b>
Sales Tax (\$ millions)	\$2.2	\$0.2	<b>\$2.4</b>

**Table 9: Economic and Fiscal Impact – Construction Phase  
Susquehanna, PA**

	Direct	Spillover	Total
Employment (thousand annual FTEs)	0.3	0.2	<b>0.50</b>
Construction (thousand annual FTEs)	0.2	0.1	<b>0.3</b>
Other (thousand annual FTEs)	0.1	0.1	<b>0.2</b>
Income (\$ millions)	\$11.6	\$6.8	<b>\$18.4</b>
Construction (\$ millions)	\$8.0	\$3.5	<b>\$11.5</b>
Other (\$ millions)	\$3.6	\$3.3	<b>\$6.9</b>
State Income Tax (\$ millions)	\$0.2	\$0.2	<b>\$0.4</b>
Sales Tax (\$ millions)	\$1.2	\$0.1	<b>\$1.3</b>

As noted in the body of the report, there will be additional economic and fiscal benefits once the pipeline is operational. The tables below break out the benefits. The nine jobs are likely to occur in Schoharie County NY and we assume the sales tax revenue will accrue to their county.

**Table 10: Economic and Fiscal Impact – Operational Phase, NY**

	Direct	Spillover	Total
Employment (annual FTEs)	5	4	9
Income (\$ millions)	\$0.4	\$0.1	\$0.5
State Income Tax (\$ millions)	\$0.1	\$0.0	\$0.1
Sales Tax (\$ millions)	\$0.0	\$0.0	\$0.0
Property Tax (\$ millions)	\$12.7	\$0.0	\$12.7

The remaining impact will accrue to Susquehanna County Pennsylvania as enumerated in the table below.

**Table 11: Economic and Fiscal Impact – Operational Phase, PA**

	Direct	Spillover	Total
Employment (annual FTEs)	2	1	3
Income (\$ millions)	\$0.1	\$0.1	\$0.2
State Income Tax (\$ millions)	\$0.0	\$0.0	\$0.0
Sales Tax (\$ millions)	\$0.0	\$0.0	\$0.0
Property Tax (\$ millions)	\$0.3	\$0.0	\$0.3

## Property Tax Revenues by County

A new pipeline will result in an increase of property taxes for the impacted counties. The table below summarizes the estimated property tax revenue each county will receive.

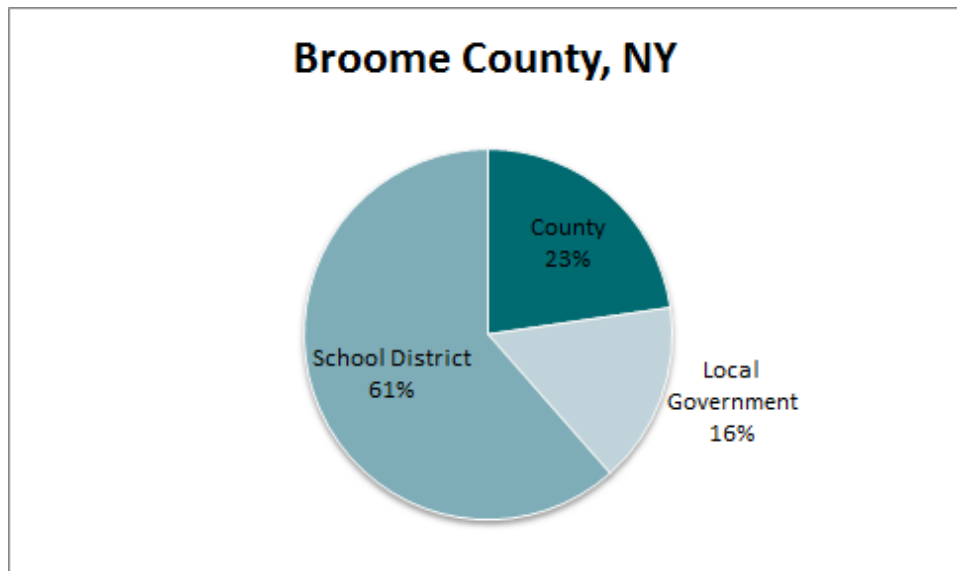
**Table 12: Property Tax by County**

	Total
Broome, NY	\$2,100,000
Chenango, NY	\$1,300,000
Delaware, NY	\$4,900,000
Schoharie, NY	\$4,400,000
Susquehanna, PA	\$250,000

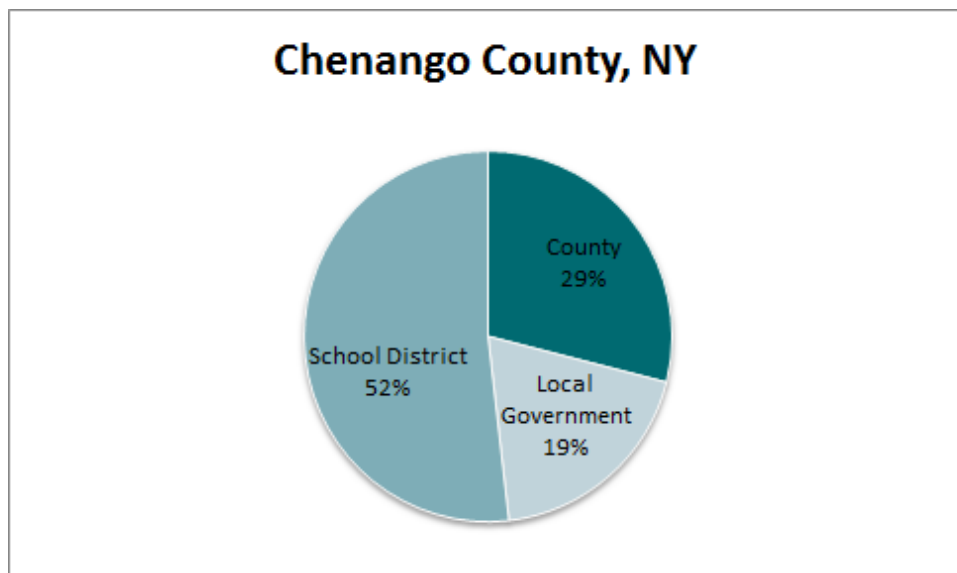
Property taxes will accrue to different levels of government in different proportions. The figures below provide estimates of the percentage breakdown for property tax revenues that will accrue between school districts, local governments and the counties.



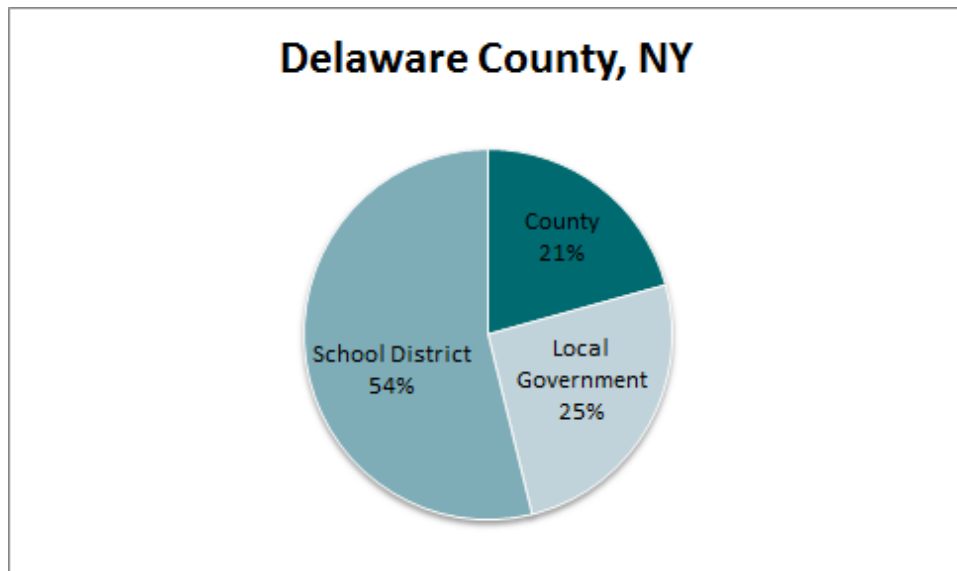
**Figure 1: Distribution of Broome County Property Tax Revenues by Type of Government**



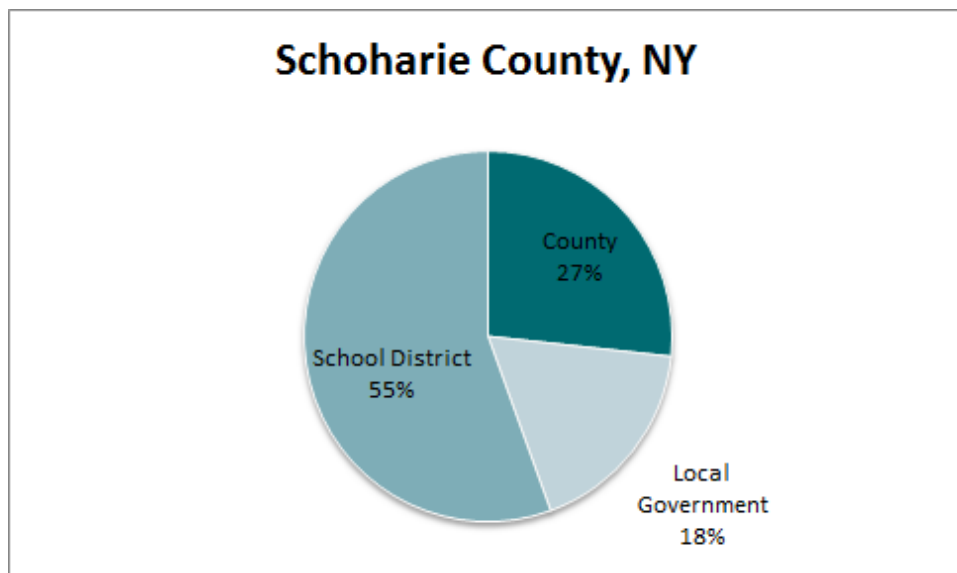
**Figure 2: Distribution of Chenango County Property Tax Revenues by Type of Government**



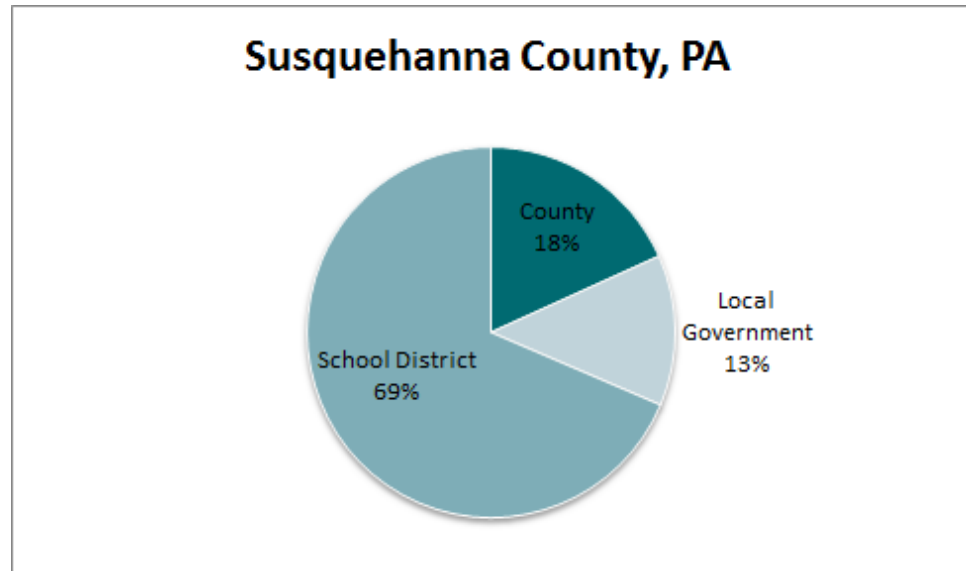
**Figure 3: Distribution of Delaware County Property Tax Revenues by Type of Government**



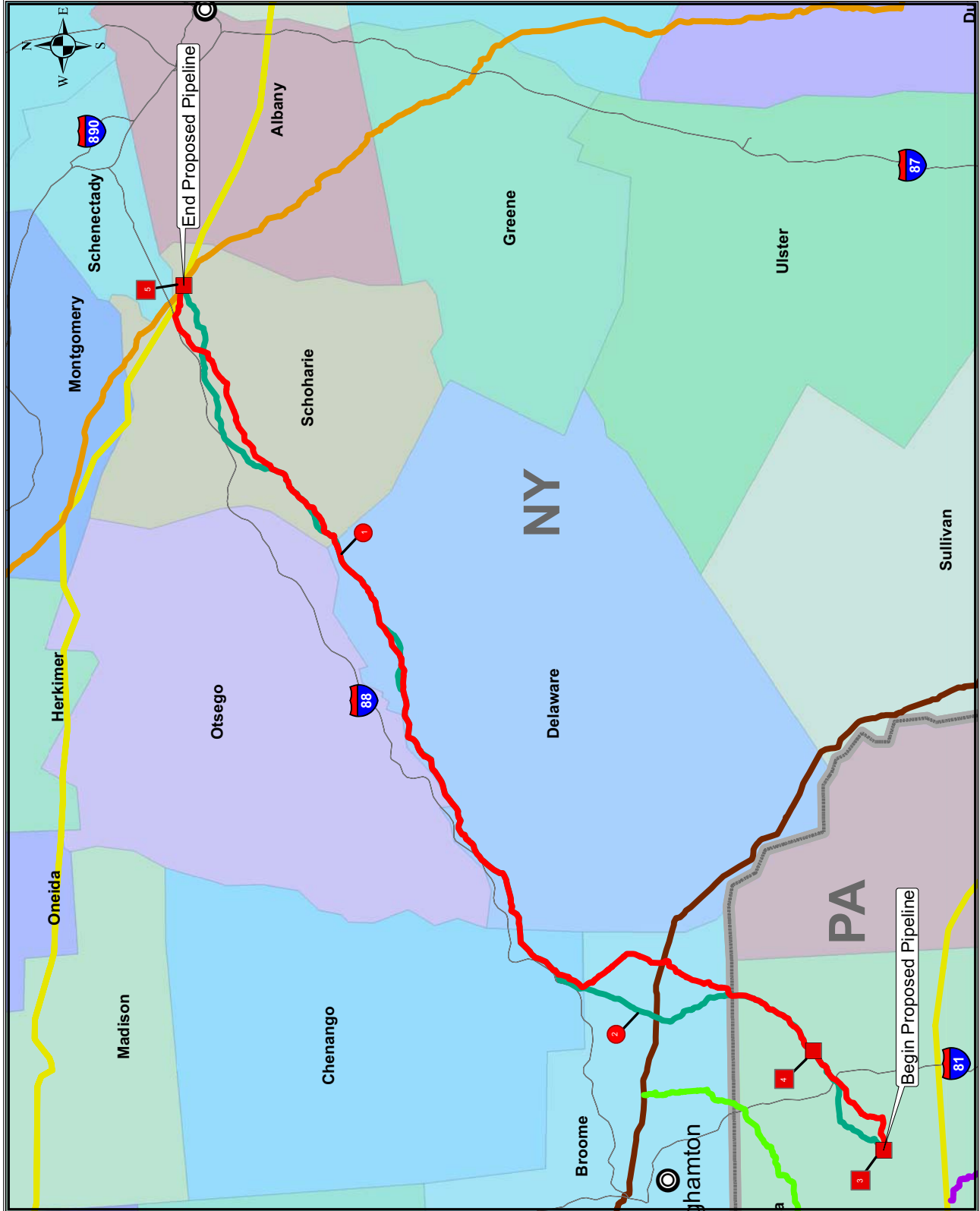
**Figure 4: Distribution of Schoharie County Property Tax Revenues by Type of Government**



**Figure 5: Distribution of Susquehanna Property Tax Revenues by Type of Government**



## Map of Proposed Pipeline



- LIST OF PROPOSED PROJECT SCOPE CONSTITUTION PIPELINE PROJECT**
- PIPELINE**
- 1 PROPOSED PRIMARY ROUTE (APPROX. 122 MILES)
  - 2 PROPOSED PRIMARY ROUTE (07/16/2012)
- OTHER FACILITIES**
- 3 PROPOSED METER & REGULATOR STATION
  - 4 SIDE TAP TO SW ENERGY
  - 5 PROPOSED METER & REGULATOR STATION

- PROPOSED NEW FACILITIES**
- PROPOSED PRIMARY CONSTITUTION PIPELINE
  - PROPOSED PRIMARY ROUTE (7/16/2012)
  - EXISTING IROQUOIS PIPELINE
  - EXISTING TENNESSEE PIPELINES
  - EXISTING MILLENNIUM PIPELINE
  - EXISTING LASER PIPELINE

**FOR DISCUSSION PURPOSES  
SUBJECT TO CHANGE  
01/11/2013**



**CONSTITUTION PIPELINE  
PROJECT LOCATION MAP**

CONSTITUTION PIPELINE COMPANY, LLC  
January 11, 2013

Rev. D

CONSTITUTION PIPELINE