Western Virginia Regional Industrial Facilities Authority

Site Selection Study and DRAFT Site Analysis Report

Virginia DCHD Submission

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This project was funded in collaboration with the Commonwealth of Virginia's Building Collaborative Communities Program and by the Roanoke Regional Partnership

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EXECUTIVE SUMMARY

The Roanoke Regional Partnership hired Timmons Group to perform a site selection and site analysis study on behalf of the newly formed Western Virginia Regional Industrial Facilities Authority, which included the member localities of Botetourt County, Franklin County, City of Roanoke, Roanoke County, City of Salem and Town of Vinton. The intent of this study was to identify potential sites of 100+ developable acres within the member localities.

Timmons Group collected all the existing GIS information from the regional planning groups, Western Virginia Water Authority and the member localities, which represented over 130 data layers. This information was then compiled into a "user friendly" standardized format which included 13 major categories for use during the site selection process. In order to obtain the potential 100+ acre sites, we utilized parcels with a minimum of 50 acres as a base parcel to build around. Following is a table showing the total parcels and parcels greater than 50 acres for each locality:

Locality	# of Parcels	# > 50 acres	% >50 acres
Botetourt County	20,282	1,058	5.2%
Roanoke County*	46,412	607	1.3%
City of Roanoke	44,499	29	0.07%
City of Salem	10,594	8	0.08%
Franklin County	43,726	2,235	5.1%
Total Parcels	**165,530**	**3,937**	**2.4%**

* Town of Vinton is located in Roanoke County

Upon identifying these parcels and potential sites, we utilized the GIS tool to down select sites based upon certain select criteria.

The down select process started with over 165,500 parcels located within the localities that ultimately were down selected to 28 sites for potential analysis. We then supplemented these potential sites with existing property information provided by the localities to make sure all the appropriate properties had been considered.

It was ultimately determined 31 sites would be considered for detailed evaluation. The WVRIFA named a subcommittee of economic developers from each participating locality to help with the site selection process. Based upon local knowledge and input from the subcommittee, the nine best sites were selected for the detailed evaluation phase.

Timmons Group performed a detailed evaluation of the nine sites and incorporated information from another existing site that was currently in development to allow for a total of ten sites to be evaluated. Site visits were conducted by Roanoke Regional Partnership, Timmons Group,

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VEDP and the WVRIFA subcommittee and detailed evaluations were performed by Timmons Group.

A weighted matrix was developed to help compare the attributes of the sites and rank the sites according to the criteria set forth in the matrix.

A return-on-investment (ROI) model was developed based upon potential land acquisition costs, development costs, infrastructure costs and potential tax revenues based upon reasonable investment and build-out of each potential site. This ROI model was utilized to provide a comparative analysis between the ten potential sites.

Through this detailed evaluation process, it was clear as to what were the most desirable sites to be considered for acquisition and development by the WVRIFA.

Recommendations and next steps:

Now that these potential sites have been identified, the WVRIFA is in a position to determine which site (or sites) they would like to pursue. Once the WVRIFA has concluded which site to pursue, we recommend attempting to acquire or exercise option agreements such that the WVRIFA can perform due diligence on the site and subsequently pro-actively market the site. We have provided a recommended due diligence budget for the WVRIFA to consider as they discuss which sites to pursue.

Next steps would include:

1. Determine which site, or sites, is most desirable to the WVRIFA
2. Pursue property acquisition or property option agreements for the desired site(s)
3. Once under control, perform recommended due diligence and appropriate engineering studies and prepare to proactively market the site(s)

Acknowledgements:

We would like to acknowledge and thank the following people and organizations for their assistance with this project:

- Beth Doughty and John Hull, Roanoke Regional Partnership
- Chief Administrators, Economic Development Directors, and other key staff for Botetourt, Franklin, Roanoke City, Roanoke County, City of Salem and Town of Vinton
- Western Virginia Regional Industrial Facilities Authority
- GIS Staff for each locality
- Western Virginia Water Authority
- American Electric Power (AEP)
- Roanoke Gas
- Roanoke Valley-Alleghany Regional Commission

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PROJECT BACKGROUND & UNDERSTANDING

The Roanoke Regional Partnership and Virginia Economic Development Partnership (VEDP) identified that the Roanoke region was lacking 100+ acre developable sites for potential economic development opportunities. As such, WVRIFA was formed and applied for a grant from DHCD to provide technical assistance in identifying and analyzing potential sites to be utilized for economic development opportunities throughout the region.

The objective of this study will be to identify up to 9 potential sites in the 100+ acre range and to further evaluate their development potential to maximize the potential return on investment for the Region. As part of this process, the Consultant collaboratively worked with the region to identify the best possible sites.

As stated in the RFP:

The consultant will assist the Roanoke Regional Partnership and its local stakeholders in identifying sites of 75 acres and larger for development as industrial sites. Ideally, the analysis should focus on sites of 100 acres and larger.

The Roanoke Regional Partnership will work to form a project team consisting of representatives of the private sector, utility representatives and government officials. The selected consultant will utilize the contacts from this team to obtain information on potential site candidates as it conducts the study.

Utilizing GIS systems and data from local, regional, and national sources, the consultant will prepare a GIS analysis to identify candidate sites within ideal criteria ranges (acreage, utility availability, number of landowners, flood zone, buffer from residential uses, site configuration, transportation access) to be determined in concert with the Roanoke Regional Partnership and the local stakeholder team.

The consultant and project team will collaboratively select eight candidate sites for further evaluation.

A consultant will utilize a combination of GIS analysis and fieldwork to evaluate sites on a number of criteria to include developable acreage, site location, transportation accessibility, topography, known environmental issues including wetlands or the awareness of potential environmental issues, infrastructure/utility availability, zoning/land use, build out potential, encumbrances/easements, and potential development costs. The consultant will compile a ranking of candidate sites based on these factors.

Deliverables will include a report on each of the eight candidate sites detailing available acreage, site location attributes, transportation access, topography, known presence or

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awareness of any environmental issues, utility availability, rail access, on-site easements or other utility conflicts, zoning/land use of subject property and adjacent properties, build out potential, and potential development costs to include maps and figures as necessary. Secondly, a ranking matrix should be compiled to assist the local team in evaluating the full set of sites.

Confidentiality will be of the utmost importance throughout the process.

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PROJECT APPROACH & SCOPE OF WORK

Project Kick-off Meeting

A project kick-off meeting was held on August 7, 2014 at the Roanoke Higher Education Facility located at 108 N Jefferson St, Roanoke, VA 24016.

The Western Virginia Regional Industrial Facilities Authority board and several member localities attended the meeting. A presentation was made by Timmons Group and is attached in the Appendix as well as a copy of the meeting minutes.

Following the presentation the meeting was open to discussion among the WVRIFA members and localities. Participants were most concerned with expanding what the region already has in terms of developable properties, and enhancing their competitive position across the state. The question was also raised if some developers would benefit from high visibility if properties were available with adequate infrastructure. Follow up concerns were if sites had multiple access points from 4 lanes roads, and if sites had access to services, e.g. food, gas, etc. The potential for multi-modal, and walkability of sites was also a concern, "how are employees going to spend their day?"

Following the open discussion, Timmons Group asked each participant to answer the following question: "What is your measure of success?"

- Maximize number of sites
- Open mind, flexibility, do not limit thinking
- Speed and timeline for development
- Tax incentive, workforce – "we have no control"
- Minimize risk for the region
- Make sure wetlands issues are addressed with the difficulty of Corps of Engineers permitting
- Act as one group to resolve issues, be ready for prospects
- Marketability in the region, attract prospects and users that best fit the region
- Work together and have uniform methods to obtain permits and inspections
- We have to be in the game and need do something with the project after the results have been determined
- Having an eventual user and an actual company that would come to the region
- Best site with the most investment that can be developed within the appropriate timeline
- While we will evaluate nine (9) sites, let's focus on one (1) project for the region
- More customers for the region
- Project that is funded by more than one jurisdiction

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- Having more tools in the toolbox to be in the game and want to diversify the industry so we can grow
- Momentum for the region, not just one site
- Finding a willing seller and once we find one we move forward in a timely manner
- Opens opportunities for the region
- Community prospers because of this study

GIS Database Development & General Site Selection / Identification

Existing Data Collection

Before regional analysis could begin, all relevant data was collected from various sources and consolidated into a single, regional database. A list was created based on the items listed in GIS Database Development and General Site Selection/Identification section of the scope to meet the requirements within the contract. Localities, regional groups, and service providers were contacted and asked to provide any pertinent data. Data was also collected from state and national databases.

Among the data collected from localities and regional groups were the following: parcels, zoning, roads, railroads, soils, karst, sewer, and water systems. Additional data was provided by the Western Virginia Water Authority, and Roanoke Gas.

Supplemental data was aggregated from state and national databases to ensure accuracy and currency of the data used to evaluate sites. Among the data collected were the following: wetlands feature class downloaded from the National Wetlands Inventory, Digital Elevation Models from the National Map Viewer, provided by the United States Geological Survey, the National Hydrology Dataset, and state transportation layers from VIRARCL Program.

Organization	# Layers	Comments
Botetourt County	34	Data was well maintained
County of Roanoke (includes Town of Vinton)	25	Well maintained, several layers overlap in City of Roanoke, and City of Salem
City of Roanoke	10	Well maintained, several layers overlap in Roanoke County, and City of Salem
City of Salem	25	Well maintained, several layers overlap in Roanoke County, and City of Roanoke
Franklin County	33	Data was well maintained
Western Virginia Water Authority	15	Utilities provided for the region

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Roanoke Valley Alleghany Regional Commission	75	Statewide data layers, several layers used for analysis
Roanoke Gas	1	Gas line provided for the region
United States Geological Survey	7	Digital Elevations Models used for slope analysis
Natural Resources Conservation Service	14	Hydrology, soil, land use, easements, and census data downloaded for the region
National Hydrology Dataset	1	Hydrology line downloaded

Database Development & Design

Due to the variety of data sources it lacked the consistency to be assimilated. For example, the parcel feature classes received originated from the different localities: Botetourt, Roanoke County (includes Town of Vinton), City of Roanoke, City of Salem, and Franklin. These datasets were all created and managed separately. The first step in aggregating the data was to identify the valuable information that each dataset included, such as acreage and owner name. Then new datasets were created based on the schematic of the existing data, and all relevant information from existing datasets was loaded into the new datasets. This process was repeated for all data provided by separate localities that needed to be evaluated on a regional scale. This included zoning, water, and sewer utilities.

The data generated from state and national databases also required minor adjustments such clipping to the extent of the region. The elevation models, downloaded from the USGS, are maintained in grids. To ensure accuracy all grid boundaries that fell within the boundary of the region were merged and then clipped, creating one, contiguous feature.

After the homogenization and formatting of the data, a regional database was created. Data was grouped into the following categories: environmental, land use planning, transportation, utilities.

General Site Selection Approach

First a list of potential categories was created to evaluate sites. The categories are as follows: zoning, topography, karst, wetlands, floodplain, roads, hydrography, soils, national forest, threatened and endangered species, communication, electric, power lines, storm sewer line, water line, emergency operations, natural gas, airports, and railroads. To reasonable evaluate these categories; they were broken into two stages, the first featuring site related constraints that couldn't be changed and the second identifying constraints that could reasonably be changed (i.e. extension of utilities to the sites).

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The stages were created based on the potential impact on development opportunity, and specific desires of the WVRIFA. It was concluded that we would perform a multistage elimination process to help down select the parcels. Following are the general guidelines for the stages of down selection.

Stage	Tool	Description
1	Slope Analysis	20% coverage of slope greater than 15%
	Karst Features	Karst features are not accepted
	Wetlands	30% coverage of wetland
	Threatened and Endangered Species	T&E are not accepted
	National Forest	National forest is not accepted
	Residential Zoning	Zoned residential, or proximity to residential zoning
	Roads	Proximity to major roads
2	Power lines	Proximity to power lines
	Waterlines	Proximity to water lines
	Sanitary Sewer lines	Proximity to sanitary sewer lines

In order to build a potential 100 acre site, it was determined it was best to utilize a minimum 50 acre site as an "anchor" parcel. Following is a list of the localities, total number of parcels and parcels greater than 50 acres.

Locality	# of Parcels	# > 50 acres	% >50 acres
Botetourt County	20,282	1,058	5.2%
Roanoke County*	46,412	607	1.3%
City of Roanoke	44,499	29	0.07%
City of Salem	10,594	8	0.08%
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Total Parcels	**165,530**	**3,937**	**2.4%**

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First Stage Elimination of Parcels

Due to the large number of parcels, it was determined that it was best to immediately begin eliminating parcels that had little to no development potential. For example, karst was applied in the first stage as a binary "yes/no" due to the underlying geology of the region and the detrimental nature of karst features to development (i.e. if a site had Karst identified, it would be eliminated). Topography, wetlands, and hydrography were also added to first stage.

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The remainder of this stage of elimination was determined by the zoning of each parcel, proximity to residential zoning, and proximity to road. Based on the feedback from the kickoff meeting and general development practices, sites were eliminated if they were within 1,500' of residential zoning, and further than 2 miles from a major road. The second round of elimination left 19,310 parcels in consideration. Later the second stage was combined with the first stage and revised to include parcels that were zoned residential, and within the 1,500' buffer.

Second Stage Elimination of Parcels

The second stage of elimination for the parcels were evaluated based on their proximity to utilities. All parcels that were not within 2 miles of water or sewer utilities were eliminated. This stage left 1,996 parcels in consideration.

Following is a table identifying the down selection process and the total number of parcels that remained after each stage of down selection:

Stage 1:	**165,530**
Slope Analysis	157,979
Karst Features	155,883
Wetland Coverage	155,297
Zoning	34,901
Threatened & Endangered Species	34,821
Major Roads	19,406
National Forest	19,310
Stage 2:	**19,310**
Electric	16,848
Water	3,614
Sanitary Sewer	1,996

After all elimination criteria were applied, the surviving parcels were then evaluated by a tool that was designed to make clusters of parcels that met the size requirements. From the 1,996 parcels, the parcels that were greater than 50 acres and less than 100 were assigned as "anchor parcels." After the anchor parcels were identified, all parcels that shared a boundary with the anchor parcel were selected. If the selection totaled, or was greater than 100 acres it was identified as a "cluster."

The tool identified 11 parcels over 100 acres, or standalone sites, and 17 cluster sites.

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Anchor Parcel Size	Total Sites
Large Anchor Parcels: Greater than 100 acres.	11
Medium Anchor Parcels: Between 50-100 acres.	17
Total Sites of 100+ acres via Site Selection Tool	***28***

After we completed the site selection process with the GIS site selection tool, we worked with the Roanoke Regional Partnership staff to determine if any sites needed to be added or deleted to the sites above. After a thorough review of the properties, it was concluded that a total of 31 sites were available to be considered for potential detailed evaluation.

Timmons Group prepared a book of site maps for each particular site to be evaluated by the subcommittee such that they could pick the top nine (9) sites to be evaluated.

Determination of Sites for Detailed Evaluation

The subcommittee met on two separate occasions and determined the top nine (9) sites for detailed evaluation. There was also another site in the region that had a significant amount of engineering work performed on the site that was included in the evaluation and site rankings.

Site Evaluation & Ranking of Sites

Once the top nine (9) sites were selected, Timmons Group performed a detailed evaluation of the sites based upon the criteria listed below. These criteria became the basis for a weighted matrix to help evaluate and rank the sites.

Property Features

- Acreage / Size – Size of the parcel(s) (min 100 acres developable)
- Total property owners – the fewer the better. For the purposes of this study, we originally identified that 6 property owners or less would be ideal, but recognized that it was a distinct possibility it could be more than six property owners.
- Parcel Configuration – Rectangular, square, or of a reasonable configuration for development to maximize development. Several parcels / sites can be larger than 100 acres, however, the parcel configuration plays a significant role in how developable the property can as well as the potential yield.
- Expandability – consider large parcels nearby that eventually could become part of this development. When looking for sites to be developed, we also take into consideration the potential expandability. Properties with large adjacent parcels are slightly more desirable than parcels with much smaller parcels (or residential subdivisions) next to the sites.

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- Location / Accessibility – Ease of access to major transportation corridors. Most economic development prospects like to be within close proximity to four-lane highways, therefore, our original search included looking for parcels within two miles of an existing four-lane highway.
- Rail Accessibility – Yes or No. Just because a property has rail running adjacent to the property does not mean the property is "rail accessible". Other factors need to be taken into account such as horizontal and vertical rail geometry, track storage, operations, and distance from road crossings, turnouts, etc.

Site Constraints

- Topography – parcel has minimal topographic issues. Several parcels can have significant topographic challenges. In this region, slopes greater than 20% present significant site development issues that can substantially increase the costs of development for a site.
- Environmental – Environmental concerns with development have increased in recent years due to the increased regulations and the US Army Corps of Engineers (USCOE) position to not issue permits for speculative development. Therefore, when we consider site constraints, we evaluate each site based upon the minimum amount of impacts to provide for relative ease of permitting.
- Cultural Resources – are there any particular issues that need to be dealt with on site (i.e. relocation of cemetery, etc.). Cultural resource issues can present significant development challenges from a timing of development to permitting process to relocate facilities. Any known cultural resource issues will be identified to acknowledge their presence.
- Subsurface / geological Issues – is the subsurface geology adequate for industrial development and do we have any subsurface geological issues we need to be concerned about for development (i.e. potential for Karst). Karst geology has the potential for sinkholes to develop and represents a "deal killer" for a significant number of prospects.

Wet Utilities

- Water Capacity & Proximity – Location of existing water lines, system capacity (i.e. is there min 500,000 GPD available, etc.) and water pressure near the site. We evaluated these items relative to each site.
- Sewer Capacity & Proximity – location of existing sewer lines and capacity near the site (pump stations, etc.)
- Costs for extending utilities - to the site were estimated based upon "order of magnitude" costs ($ per LF, etc.) and feedback from the localities and the Western Virginia Water Authority.

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Dry Utilities

- Power Proximity & current capacity available – proximity to major transmission lines and current capacity available without major upgrades, then potential capacity with upgrades and are there any major issues with potential upgrades (i.e. can they upgrade transformers or do they need to build a new substation, etc.). We relied upon Appalachian Electric Power (AEP) to provide information for each site.
- Natural Gas Proximity & Capacity – proximity to major natural gas lines & potential capacities available. We relied upon Roanoke Natural Gas to provide information for each site.
- Telecom Proximity – proximity and availability of fiber. Several sites had access to multiple fiber carriers. These carriers were identified for each site and their potential service capabilities were identified for each site.

General Site Development Issues

- Potential On-site Utility Conflicts – any potential utility conflicts on site that might create an issue with development of the site (i.e. major transmission lines on site that limit development potential), or underground utility easements such as natural gas, water or sewer.
- Zoning / Land Use – Will factor into the criteria, but will be down rated since the sites can be rezoned. It is believed that should a site be desirable, then the locality can reasonably rezone the property.
- Build Out Potential – What is the yield of the property on a SF per acre basis that can reasonably be obtained.
- Potential Development Costs – what are the potential site development costs on a per acre basis. This will be validated based upon a SITEOPS® analysis performed on each site.

Presentation & Marketability

- Marketability – Generally does the site have existing similar businesses within the general area / corridor of the site. When a prospect comes to visit a site, what is his general impression of the site relative to what surrounding development and environs are around the site.
- Presentation – Does the site / property show well as you drive into the general location of the property (i.e. are there any community issues that need to be addressed).

Site Acquisition Issues

- Assessed Property Values - Assessed property values for each site.

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- Potential Acquisition Costs - It's important to note that a site that is not "entitled" (i.e. has not been zoned appropriately for industrial or commercial use) will most likely have a lower assessed value than what the property might be worth on the open market if it were entitled. Realizing that every land deal is different, we defaulted to readily available information such as sales listings, or additional information provided by the local economic developers to provide what they believed were reasonable and realistic property acquisition costs.

Site Visits / "Windshield" Tours

Timmons Group and representatives from each locality, Roanoke Regional Partnership, VEDP and AEP conducted site tours on January 21, 2015 and follow-up sites visits were performed by Timmons Group on February 24, 2015.

Each person who participated in the site visits was asked to fill out a site visit form to allow people to comment on:

1. Presentation issues (i.e. First Impressions, signage, well maintained, etc.),
2. Site features (especially unique features),
3. Environmental concerns,
4. Access issues,
5. Provide general comments,
6. If they could improve 1 or 2 things about this site, what would it be?

Build-out Potential / Site Yield Analysis

Timmons Group developed a site yield analysis based upon the potential build-out for each site. We developed reasonable footprints for each potential site based upon potential target markets and similar size facilities which have been constructed on past projects.

Each build-out included the largest size facility you could fit on the site based upon site constraints as well as the smallest facility you could fit on the site. These build-outs were then used to determine the appropriate yield for each site on a SF per Acre basis. In this region of the state, following is a table identifying the yields and classifications:

Yield (SF / Acre)	Classification
< 3,000 SF / Acre	Poor
3,000 to 5,000 SF / Acre	Good
> 5,000 SF / Acre	Excellent

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Developable Acreage

The primary objective of this study was to identify potential sites with greater than 100 acres developable property, such that it could be utilized by a potential single user. As such, we developed constraints maps for each site and identified the potential developable acreage for each site. If a site had less than 100 acres developable on the property, the site was downgraded in the analysis.

SITEOPS® Analysis

We utilized a SITEOPS® Analysis to validate the potential site work needed for each particular layout and utilized this to validate the costs per acre to develop a site.

Sites compared to Target Markets

Upon completion of the above analysis, the sites were then compared to the target markets and a matrix was developed to determine which sites would work relative to the target markets. Target markets included:

- Agribusiness, Food & Beverage
- Advanced / High Value Manufacturing
- Light Manufacturing
- IT / Data Centers
- Logistics Distribution

Return-on-Investment (ROI) Model

A return-on-investment model was developed to provide a comparative analysis between each of the sites. Since each locality only receives direct benefit in terms of real estate (RF) and machinery and tools (M&T) taxes, the model was built utilizing this as the basis for comparison. The model included the following items:

Total "Order of Magnitude" Costs were based upon the following items listed below:

1. Potential Land Acquisition costs: The localities provided what they believed were reasonable prices for the land values should they be purchased. The assessed values were taken into consideration, however, it was obvious the assessed values and the potential purchase prices can vary greatly across the region.

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2. Site Development costs: Site development costs on an estimated costs per acre were utilized to determine an "order of magnitude" site development costs. These costs varied based upon potential site development issues, developable acreage and yield for potential build out on each site.

3. Utilities costs: Utilities costs were estimated based upon distance from the closest public water and sewer lines and order of magnitude costs to extend these to each site.

4. Transportation / Road costs: These costs were developed based upon anticipated improvements to either extend entrance roads into or onto a site and any improvements to nearby transportation infrastructure (i.e. expanding a bridge, etc.)

These costs were then divided by the total acreage and developable acreage to provide order of magnitude costs per acre.

In order to determine the potential tax revenue for each site, we developed a Potential Investment Yield, which included the following items:

1. Build-out potential of each site, or yield per site
2. A realistic costs per SF for total project investment ($100 to $150 per SF)
3. A breakdown of Real Estate investment (40% of project investment) and Machinery & Tools investment (60% of project investment with 50% recapture of taxes)
4. Developed a Potential Annual Tax Revenue based upon the current real estate (RE) and machinery and tools (M&T) taxes at build-out of each site

The potential ROI was calculated by dividing potential tax revenue by total "order of magnitude" costs to provide a comparative analysis between sites located within the localities. Following is the list of tax rates for each specific locality at the time of this analysis:

Locality	Tax Rates (per $100 assessed)		
	Real Estate	Machinery & Tools	Personal Property
Roanoke County	$1.09	$3.00	$3.50
City of Roanoke	$1.19	$3.45	$3.45
Franklin County	$0.55	$0.70	$2.36
Botetourt County	$0.72	$2.63	$1.80
City of Salem	$1.18	$3.20	$3.25

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