Analysis of Delaware Permit Competitiveness

Delaware Business Roundtable
Ready in 6 Coalition
December 2019
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Deliverable Overview

This deliverable is drafted as of December 2, 2019.
The purpose of this report is to:

• Identify recommendations for Delaware’s permitting process
• Highlight potential economic impact resulting from delays in the permitting process
• Propose a roadmap to improve Delaware’s competitiveness

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Project Introduction
The Delaware Situation

Background

- Delaware’s current permitting process is seen as burdensome to the state’s overall economic development efforts.
- In support of this, the Delaware Business Roundtable (“DBR”) engaged KPMG to assist in the preparation of an independent evaluation of the states’ permitting process, including county level permits.
- DBR’s goal is to identify state and local improvements that enable economic development investors to achieve permit approvals in six months or less – “Ready in 6.”
- From an economic development perspective, the lack of a timely and cohesive permitting process is believed to have led to missed opportunities resulting in a negative economic impact to the State of Delaware.
- Re-zoning was not evaluated in this report and therefore not considered in report recommendations.

Our Scope

- Understand the permitting issues by conducting interviews with key personnel involved in the permit review process to understand processes, challenges, and concerns.
- Review existing permitting procedures, guidelines, and processes.
- Identify potential gaps and opportunities to streamline existing processes.
- Quantify the potential economic impact of missed opportunities.
- Identify improvements to the permitting review process.
- Prepare an executive level overview of findings and observations.

Guiding Question

- What improvements can be made to help Delaware achieve its “Ready in 6” goal?
Site Selection: An Economic Development Perspective

Phase 1: Getting on the list
Communities are expected to provide timely responses to site selectors/investors request for sites/information. Communities need high-quality sites (including existing buildings) in industry-compatible locations to be considered for further due diligence.

Phase 2: Staying on the list
Communities are expected to execute a professional site/building tour that illustrates site capability and compatibility, infrastructure, utilities and community assets. A clear and defined permitting process is key in this step.

Phase 3: Closing the deal
Communities are expected to support “the business case” through the closure of the deal including on going project support and aftercare. The permitting process is key to enabling investors to achieve their business plans within target time and cost parameters.
The Role of Permitting in the Site Selection Process

Our Perspective
The permitting process plays an important role within the site selection process. Site selectors and investors often view the process as a barometer for measuring how business friendly or supportive a state or local community is to economic development and new investment.

Best in class permitting processes exhibit the following key features:

- Requirements, costs, and key contacts are clear, transparent, and well documented for an investor.
- State and community-level participants are well coordinated, and present seamlessly to an investor.
- Points of contact throughout the process are knowledgeable about and supportive of economic development.
- Most best in class processes have a single point of contact acting as an investor’s primary interface with all permitting bodies. These contacts are generally seen as having a vested interest in the success of the project helping to cut “red tape” while ensuring the required process is properly fulfilled.
- Pre-meetings are executed upfront to determine permit path and timeline; these meetings are intended to expedite the process, rather than slow it down or add complexity.
- When challenges arise, the state/local economic development group, or designated single point of contact helps shepherd the process back within the targeted timeline.
- Best in class processes are seen as an economic incentive as they reduce overall risk and save investors money by reducing the overall time to operation/market.
- Best in class processes extend to residential home builders, as without housing stock it is difficult to support economic development.
Delaware Observations & Trends

Delaware takes at least 18 to 24 months to process a permit assuming no rezoning is required. Other states, such as Alabama, Maryland, Pennsylvania, South Carolina, and Tennessee, are doing this in substantially less time.

- There is a collective focus and effort by state and local stakeholders to streamline the permitting process.
- A holistic view of the end to end permitting process is not clearly defined within the State.
- A project specific point of contact should be identified w/in each agency to assist with streamlining review status and act as a conduit for discussions with developers, engineering firms, etc.
- Agencies having jurisdiction (AHJ’s) should enhance their data collection and reporting capabilities to allow for greater transparency regarding permitting timelines and status.
- Processes and approval requirements are often linear leading to delays in the end-to-end permitting processes.
- Opportunities exist to further leverage technology to streamline communication and information and document sharing (e.g., online plan submission, online payments, online status of plan reviews).
- Continued focus on communication and coordination between and among AHJ’s.
- DelDOT’s jurisdiction of all roads in the State provides a unique challenge and opportunity for streamlining permitting processes.
- There is a perceived difference in priorities between DelDOT leadership and front-line employees. DelDOT leadership has attempted to implement change and improve process, however, this does not always translate in interactions with the engineering and development community.
- Prioritizing Traffic Improvement Districts (TID’s) should help streamline approval processes and provide cost certainty for permitting.
- Reengineering the Preliminary Land Use Service (PLUS) process may improve approval timing.
- Limited project ready product; most development sites are starting from zero.
- Redevelopment opportunities appear to provide no advantage over greenfield sites; change of use appears to be the same as starting from zero.
### State and Local Benchmarks

Note: This map is not all inclusive, however represents recent KPMG project experience.

<table>
<thead>
<tr>
<th>State</th>
<th>Permitting Highlight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>State executes pre-investment/pre-planning meetings with executive-level state sponsorship utilizing detailed project planning tools.</td>
</tr>
<tr>
<td>Louisiana</td>
<td>State allows companies to pay the cost of employee overtime to expedite certain state-level permits.</td>
</tr>
<tr>
<td>Maryland</td>
<td>State routinely utilizes project liaisons to facilitate and fast track county and state level permits for economic development projects.</td>
</tr>
<tr>
<td>New Jersey</td>
<td>The state’s Business Action Center helps expedite the state’s permitting process by facilitating meetings and liaising with state permitting agencies.</td>
</tr>
<tr>
<td>New York</td>
<td>The state removed its site-level review for projects under specific parameters in New York City.</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>The state and local permitting authorities work in sync with detailed project planning tools.</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>The Governor’s Action Team serves as a liaison between a company and permitting authorities, and helps to arrange pre-investment/pre-planning meetings to help expedite the permit process.</td>
</tr>
<tr>
<td>South Carolina</td>
<td>State executes pre-investment/pre-planning meetings with strong executive-level state sponsorship utilizing detailed project planning tools. Key permit approvers are critical members of the “project closing” team.</td>
</tr>
<tr>
<td>Tennessee</td>
<td>State assigns project managers to facilitate permitting process and serves as a liaison between a company and permitting authorities.</td>
</tr>
<tr>
<td>Wyoming</td>
<td>State’s Executive branch spearheads the permitting process helping to expedite the project timeline by liaising with all permit authorities.</td>
</tr>
</tbody>
</table>
## Development Process Overview

### Land Use Process

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PLAN START (WEEK)</th>
<th>ACTIVITY DURATION (WEEKS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoning (includes State-mandated noticing time and public hearing)</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Platting - required if rezoned or granted Special Exception</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Variance/Special Exception</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

### Infrastructure Development Process

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PLAN START (WEEK)</th>
<th>ACTIVITY DURATION (WEEKS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Development Conference Meeting</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Submit IDP Contracts, Bonds &amp; Insurance</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>IDP Application / Plan Submittal</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>IDP Review (Allowance for 3 Reviews)</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>IDP Approval - Plans Signed</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Submit IDP Permit Application / Approval</td>
<td>13</td>
<td>1</td>
</tr>
</tbody>
</table>

### Building Permit Process

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PLAN START (WEEK)</th>
<th>ACTIVITY DURATION (WEEKS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code Compliance Development Conference</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Submit Building Permit Application &amp; Plans</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Plans reviewed for zoning, architectural, fire, water/sewer/drainage, engineering, and traffic compliance, with any Letters of Deficiency issued (addressed on an ongoing basis)</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Building Permit Issued (contingent upon IDP and Land Use Approval)</td>
<td>13</td>
<td>1</td>
</tr>
</tbody>
</table>

### ROW/Easement Process (if needed)

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PLAN START (WEEK)</th>
<th>ACTIVITY DURATION (WEEKS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Submitted</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Application Review</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Approval Process by City Council, and Mayor</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>File with County Clerk</td>
<td>15</td>
<td>1</td>
</tr>
</tbody>
</table>

### Construction Process

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PLAN START (WEEK)</th>
<th>ACTIVITY DURATION (WEEKS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storm water Permit (State)</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Earth Change Permit</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>IDP Construction Conference</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>IDP Construction, Inspection, and Testing</td>
<td>17</td>
<td>30</td>
</tr>
<tr>
<td>Building Inspections - All Trades</td>
<td>17</td>
<td>30</td>
</tr>
<tr>
<td>Certificate of Occupancy</td>
<td>46</td>
<td>1</td>
</tr>
</tbody>
</table>

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This example of a best in class process leverages a concurrent review between work streams as opposed to an end-to-end process which is utilized in Delaware.

One way to achieve process improvement could be to implement Middletown’s approach of allowing projects to proceed at the local level at their own risk contingent on state approval. Doing so allows for a more concurrent process.
Our approach was focused on holistically evaluating the current state of Delaware’s permitting process. Due to limitations in available data, KPMG revised the scope to best support this analysis.

**KPMG’s Integrated Approach**

**Interviews**
- Identified relevant stakeholders
- Coordinated meetings or calls
- Documented findings and observations

**Data Collection**
- Identified relevant data points
- Collected available data
- Identified gaps in data availability

**Analysis**
- Analyzed county permitting process
- Evaluated potential economic loss
- Highlighted site selection / ED perspective

**Reporting**
- Synthesized findings and observations
- Provided recommendation to improve marketability of state
- Prepared executive-level report
Below highlights all state, local, and economic development stakeholders KPMG interviewed. Private stakeholder names were withheld due to confidentiality.

<table>
<thead>
<tr>
<th>State</th>
<th>County</th>
<th>Local</th>
<th>Economic Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware</td>
<td>New Castle</td>
<td>Wilmington</td>
<td>Delaware Prosperity</td>
</tr>
<tr>
<td>Department of Transportation</td>
<td>County</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office of Fire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DHSS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Key Activities and Milestones to Understand the Problem

- **Interviews with State of Delaware Agencies**: 5
- **Detailed meetings with counties were conducted in-market**: 3
- **Gained insights to Delaware’s permitting process**: 3
- **Economic impact analyses based on business input and proxy projects**: 3
- **Meetings with Delaware engineering firms**: 4
- **Delaware Developers represented in the interviews**: 11
- **Interviews with State of Delaware Agencies**: 5
- **Gained insights to Delaware’s permitting process**: 3
- **Economic impact analyses based on business input and proxy projects**: 3
- **Meetings with Delaware engineering firms**: 4
- **Delaware Developers represented in the interviews**: 11

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Executive Summary
Opportunities to Make Delaware More Competitive

KPMG has evaluated the economic development competitiveness of Delaware by reviewing the permit processes throughout the state. That evaluation included interviews with numerous regulators, business owners, engineers and other stakeholders, in addition to a review of code and website materials. *With significant competition between states for jobs, talent and investment, an efficient permit process is critical to demonstrate a favorable business climate and provide a predictable outcome for businesses seeking to locate or expand in Delaware.*

Because prospective businesses target locations which can achieve permitting in as few as 6 months, those states with longer permit timeframes experience reduced interest and missed economic development opportunities.

What we learned was that **Delaware is significantly behind with an average permit time frame of 18-24 months throughout the state.** In the region, Delaware’s competitors, Maryland and Pennsylvania, are able to achieve substantially faster permit approvals. As a result, Delaware is missing significant economic development opportunities.
Opportunities to Make Delaware More Competitive

Create a State “Project Concierge” (or equivalent) to help streamline communication between state agencies.
- The proposed Concierge must have executive platform, implementing regularly scheduled meetings with top state stakeholders to identify further opportunities for process improvements. The Concierge should also gain better insight into process timelines and work to document metrics to improve key performance indicators (KPIs).

In addition to a Project Concierge, a permitting action committee should be assembled to assist with the implementation of permit improvements.
- The action committee should be assembled with key state and county stakeholders to further identify issues and opportunities for improvement.

Transportation Improvement Districts (TIDs) must be implemented in corridors experiencing or targeted for significant development to provide potential investors with greater visibility and cost predictability.
- Delaware should consider expanding the use of TIDs and expediting review and approval of these districts. There are four (4) Transportation Improvement Districts currently listed as ‘Under Development’ on the DelDOT website. These are: Eastown in Middletown, City of Dover, SE Milford, and Henlopen TID. The approval of these plans should be expedited to make clear the state’s desire to support economic development. Further, the state should stand down from local approvals allowing counties to approve permits contingent upon state approval, similar to what is taking place in Middletown.
Opportunities to Make Delaware More Competitive

Consider implementing a product development initiative to pre-package approvals for targeted investment sites.

- Many states and large scale utilities are starting to make significant investments to product development to ready marquee sites and buildings for prospective development. This pre-investment, in most cases, reduces the permitting timeline as issues are known and solved prior to an actual investment. Helping to expedite the reuse of existing property (i.e. buildings) could provide for a competitive advantage.

State and county agencies should endeavor to generate data that measures permit process timelines. KPIs can be developed once historical data is available.

- There is currently inconsistent data being collected by state (and county) agencies. Delaware should consider establishing a process with targeted timeline to commence collecting permit data with the goal of publishing metrics on the Governor’s Office or agency websites to increase transparency and drive accountability.

Consider evaluating the integration of a statewide IT solutions to better integrate the permitting process between agencies and allow visibility to the counties.

- Integration should include the State and all three counties to enhance communication and coordination to allow for a consistent view. As an example, New Castle County and City of Wilmington are in the process of developing an online inspection scheduling system, which could be integrated in the statewide system. While there are few examples of justifications doing this nationally, the implementation of this improvement would certainly put Delaware on the cutting edge.
Opportunities to Make Delaware More Competitive

Delaware needs to capture better economic development project data to better understand new, missed and lost opportunities.
– While the creation of the Delaware Prosperity Partnership has improved the optics around Delaware’s economic development effort, historical data needs to be generated to further understand how Delaware’s permitting process is impacting economic development.

Create a prioritization program for significant economic development projects to fast track approvals.
– While permitting efficiency is important for all projects, the State could create a powerful economic incentive and competitive advantage by helping to expedite approvals for significant development projects similar to the “Jobs Now” initiative in New Castle County.

Streamline and strengthen DelDOT’s review processes to ensure all departments review and provide comments on construction plans during initial review cycles.
– Comprehensive review and input must be completed upfront to provide an investor with predictability.

Implement permit focused economic development training for state and county permit stakeholders.
– State and county permit stakeholders need to present seamlessly and educated on the overall process. Economic development training could help coordinate this effort.
Improvements May Have a Positive Economic Contribution

As the permitting process currently exists, Delaware could be losing out on positive economic contribution.

This report highlights three representative projects that were identified through the interview process and illustrates both the economic contributions of each project type, and the portion of the contribution that is lost due to a 6-month delay in construction.

As Delaware’s objective of achieving “Ready in 6” is achieved, these contributions may positively impact the economy.

### What’s at Stake?

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Potential Economic Contribution</th>
<th>Delayed Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Station in Delaware</td>
<td>20 Total Job-Years¹, $1M In Labor Income, $3M in potential gained or lost output</td>
<td>60 – 280 Total Job-Years¹, $6M – $26M In Labor Income, $5M - $18M in potential gained or lost output</td>
</tr>
<tr>
<td>Office Building in Delaware</td>
<td>60 – 280 Total Job-Years¹, $6M – $26M In Labor Income, $5M - $18M in potential gained or lost output</td>
<td>780 – 1,610 Total Job-Years¹, $50M – $120M In Labor Income, $125M - $245M in potential gained or lost output</td>
</tr>
<tr>
<td>Hospital in Delaware</td>
<td>780 – 1,610 Total Job-Years¹, $50M – $120M In Labor Income, $125M - $245M in potential gained or lost output</td>
<td></td>
</tr>
</tbody>
</table>

¹: Representative of one full-time equivalent employment (FTE) over the span of one year

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Key Economic Impact Takeaways

We estimate that the case of a 6-month delay would adversely impact each project by varying degrees. The impact is defined as sum of the time value of the delay in the construction contribution and the lost contribution during the initial 6-months of operating activity.

For small projects such as the gasoline station, the impact due to a delay is consistent across metrics. In the representative gasoline station project, both employment (measured in job-years) and labor income are reduced by more than 20.0 percent. For larger projects that employ more specialized workers, the larger proportional impact results from a delay in receipt of labor income, which consists of wage and salary benefits.

The impact of a delay in construction is generally proportionally greater due to the larger indirect and induced effects (larger multiplier) of construction activities.

• **Gasoline Station**: The impact due to a delay in operations appears small for an individual station but add up when considering multiple projects of this size.

• **Office Building/Headquarters**: There is a wide range of impact due to a delay, which is a function of the office building size and number of employees. Generally, the impact is greatest in the construction phase.

• **Multispecialty Building/Hospital**: The construction phase is a major contributor to the economic contribution of this project. Delays in construction impact labor income and output significantly.

If we further consider cluster effects of the headquarters and hospital, which relate to the fact that firms within the same or similar industries might further concentrate in the state (not considered directly in the economic contribution estimates presented herein), then the impact on the region could be even larger than the economic contribution estimates suggest.
Path Forward
Achieve executive alignment and sponsorship to improve the permitting process. This should be a top-down approach.

Create a State “Project Concierge” to drive the implementation of improvements across all agencies.

Develop KPIs to consider evaluating overall performance and drive process improvements.

Evaluate the integration of state-wide IT systems to streamline the holistic permitting process and to generate historical data.
Economic Development Path Forward

As the intensity of competition for business attraction increases between states, economic development agencies are considering a variety of methods to position their state in the best marketable position. Due to increased public focus on business incentives, we have seen best-in-class economic development organizations shift their focus to product development. Some examples include:

**Product Development Initiatives**
- Product development initiatives allow for allocations of funding to support prospective economic development efforts within a designated jurisdiction. Specifically, programs are designed to evaluate site development needs across a portfolio of real estate options and determine the best opportunities for investment, as well as magnitude of investment.
- This goal of this approach to best maximize the return on investment for all stakeholders involved.
- These efforts are used not only to develop real estate opportunities but to improve each communities ability to respond to RFIs.

**Assessment of Competitive Landscape**
- Understanding the competitive landscape of the product within your jurisdiction can assist states or other economic development organizations evaluate the most suitable sites for development.
- Identifying likely competitors and conducting benchmarking assessments can help an economic development organization understand the strengths and weaknesses of their product from a location perspective. This would allow for more targeted outreach and assist in the development of a marketing narrative.

**Strategy Development**
- Business attraction / retention is a significant undertaking which requires the coordination of stakeholders with a variety of interests. Development of an overall strategy and implementation of a defined approach across all stakeholders can enhance the overall ability to best meet investor demands.
Current-State Analysis
Process Overview

The graphic below summarizes a high-level overview of the key permitting processes in Delaware. Durations below are representative and actual durations vary based on scope of proposed construction and required reviews. Additional information regarding each of the summary level processes outlined in the graphic is contained on the following slides including an overview of the process, what we learned and key recommendations.

Summary Process Steps

1. **Preliminary Land Use Service (PLUS)**
   - Managed by Office of State Planning Coordination
   - Required for projects of certain size or value
   - Early interaction with state agencies

2. **DelDOT TIS**
   - Most projects require a Traffic Impact Study (TIS) to be completed by DelDOT.

3. **LONOR**
   - Letter of No Objection to Recordation (“LONOR”) and Entrance Plan must be completed subsequent to TIS.

4. **Local Land Use**
   - Requirements vary by project type and locality
   - Project size and location may necessitate PLUS process or DelDOT TIS

5. **Construction Plans and Other Permits**
   - Requirements vary by project type and locality
   - Typically includes: DelDOT, DNREC, County or Local building department, State Fire Marshal, DHSS

Timeframe

1. Up to 3 months
2. Up to 8 months
3. Up to 10 months
4. Up to 18 months
5. At least 6 months
Overview & Process

The Preliminary Land Use Service (PLUS) process allows developers, owners and other relevant stakeholders to meet with state agencies prior to submitting plans to local governments to discuss the proposed development and gather initial feedback and input. Meetings are held monthly.

The PLUS process takes approximately two months to complete from the submission of the application. Developer or owners looking to submit a Project for a PLUS review must submit an application form to the Office of State Planning Coordination. Applications submitted by the first business day of the month will be reviewed at a meeting later that month, all other applications go to the next month’s meeting. Drawings and site plans should be submitted with applications if available.

During the PLUS meeting, applicants have 30 minutes to review relevant project details with state agencies. After the meeting, applicants will receive comments from state agencies within 20 business days. After addressing the state’s concerns, applicants may submit their development to local jurisdiction for review and approval.

Next Steps

DelDOT TIS and LONOR

Locality Land Use

Localities may require PLUS process (based on project size) prior to submitting for land use approval.
What We Learned…

• The State views the PLUS process as critical to communicate requirements and set expectations.
• Certain stakeholders view the process as having limited value due to familiarity with the process and limited decision making authority from representatives at the state agencies in attendance.
• There is a challenge having the right level of resources with decision making responsibilities from each agency in attendance.
• Resources that attend PLUS meeting are not typically the same resources reviewing detailed plans and records.
• Information and feedback obtained from permitting agencies during process is not binding.
• There is perception that the PLUS process delays the start of Traffic Impact Studies ("TIS") by 2 months due to pending receipt of PLUS confirmation of review.

Recommendations

1. Consider assigning a State “Project Concierge” (or equivalent) to attend PLUS meetings and assist with streamlining development between and among agencies for strategically important or large projects.
2. Consider PLUS process running concurrent to and as a value add to State/County processes and not as a linear requirement to advance development at local agencies.
3. Consider requiring participation from director level personnel at state agencies participating in PLUS process.
4. Allow the process to be optional for developers, owners, and engineers with significant experience in Delaware.

Economic Development Perspective

This process must be clearly packaged to provide the right investor optics. A Project Concierge can help create this image with an intake process to capture investor requirements upfront for better overall guidance.
Overview & Process

Most localities require DelDOT preliminary approval or a construction entrance permit to be submitted to the locality with the construction documents for approval. All new entrances and modifications/changes in use that increases vehicular traffic require DelDOT review. In particular, projects with site peak hour volume exceeding 50 vehicles per hour require evaluation. A project area with average daily trips volume greater than 200 vehicles per hour, but less than 500 vehicles per hour, require a Traffic Operational Analysis ("TOA"). A project area with average daily trips volume greater than 500 vehicles per hour require Traffic Impact Study ("TIS") to determine the extent of improvements required by DelDOT.

After TOA or TIS is completed, DelDOT will review the site record plan and send comments to applicants. Applicants will address comments and submit final signed/sealed record plans with owner signature. If DelDOT deems the plans acceptable, DelDOT will issue a Letter of No Objection to Recordation ("LONOR"). DelDOT may issue a LONOR without a TIS or TOA if proposed project meets specific criteria like having a peak hourly volume of less than 50 vehicles, having an average daily trip volume of below 200 and includes no improvements in the right-of-way.

Developers or owners with proposed projects that would minimally increase traffic counts may apply to DelDOT directly for a LONOR. All other developments may require a traffic impact study (TIS) or a traffic operational analysis (TOA). Applicants must complete the TIS or TOA and receive input from DelDOT on required improvements prior to receiving a LONOR.

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1– Comments may result in multiple resubmissions resulting in a lengthy and extended review process.
What We Learned...

• DelDOT Leadership is focused on process improvements to streamline the permit review cycles including the following:
  – Developing internal dashboards to track performance against internal review metrics
  – Focus on reducing review times from 45 days down to 30 days
  – Focus on reducing the number of review iterations
  – Ensuring a comprehensive review with appropriate resources (e.g., construction review, traffic, pedestrian, etc.)
  – Developing standard checklists and processes to assist engineering firms in submitting complete permit applications in the initial submissions
  – Evaluating further initiatives such as on-line plan submission, on-line payments and reporting initiatives to drive transparency and accountability
  – Recognizing concerns with inconsistencies in plan reviews and field driven changes and focus on providing training and further direction to staff
  – Implemented a Post Comment Review Meeting with engineers to help provide clarity or answer questions as part of the review process
  – Prioritized focus on TID’s within the Capital Improvement Program (CIP) to allow for streamlined permitting processes

• DelDOT process, including the TIS or TOA, is one of the largest impacts to the duration of the permitting and approval process. Examples were discussed of approvals taking over 12 months. DelDOT improvement requirements have impacted the viability of many projects and directly impact small businesses.

• Stakeholders in the development community reported challenges getting all relevant DelDOT divisions to provide comments during the initial review cycle. Many asserted that DelDOT often provided new review comments on secondary and tertiary review cycles. Specifically, stakeholders relayed instances where DelDOT provided additional comments after final signed and sealed drawings were issued.

• There is a difference in priorities between DelDOT leadership priorities and front-line employees. DelDOT leadership has attempted to implement change and improve process; however, this does not always translate in interactions with the engineering and development community.

• The transportation improvement district (TID) in Middletown is working well and increases schedule and cost certainty among developers; however, no other TIDs have been implemented.
**Recommendations**

1. Prioritize TID’s in corridors with potential for significant development. Finalize the four (4) transportation improvement districts currently listed as ‘Under Development’ on the DelDOT website. These are: Eastown in Middletown, City of Dover, SE Milford, and Henlopen TID. Consider evaluating expanding the use of TIDs and expediting review and approval of the districts.

2. Consider evaluating internal review and comment periods and continue to identify opportunities to streamline internal processes.

3. Work with the Counties to enhance communication and coordination to allow for a consistent view of required traffic improvements.

4. Consider third parties to conduct reviews to alleviate resource constraints or assist in managing fluctuations or peaks in demands from the engineering communities.

5. Strengthen redevelopment rules to add clarity and encourage redevelopment of existing sites.

**Economic Development Perspective**

DelDOT’s process is seen as the largest impediment to development in Delaware. There is a perceived difference in priorities between DelDOT leadership and front-line employees. DelDOT leadership has attempted to implement change and improve process; however, this does not always translate in interactions with the engineering and development community.
Overview & Process

Each of the three Delaware counties are responsible for performing their own land use reviews for all new development projects. The responsibility of the land use reviews is to ensure that all development submissions comply with the zoning details for that particular area. Land use departments also make decisions on re-zoning applications to interpret the master plans for each county. Each county operates differently and typically require different amounts of time for their individual reviews. Land use decisions are made at the local level; however, Delaware requires all counties to create comprehensive plans to govern development. Plans are valid for 10 years and the counties provide updates to their plans and report on progress on an annual basis. Summary information regarding each county’s plan is included below:

- **New Castle County**: In 2012, adopted their most recent comprehensive development plan that “provides the blueprint for future development and redevelopment” within the county.
- **Kent County**: adopted their most recent comprehensive plan September 11, 2018. The plan aims to “preserve the rural and community character of Kent County by encouraging the most appropriate use of land, water, and other resources….“
- **Sussex County**: adopted their most recent comprehensive plan in December 2018.

In addition to comprehensive plans, each county maintains a development code that is consistent with their plan. A summary of each Counties overview and process, what we learned and recommendations is included on the following slides.
County/Locality Land Use - New Castle County

Overview & Process

The 2012 Comprehensive Development Plan is effective from July 1, 2012 through June 30, 2022. The comprehensive plan provides the blueprint for future development and redevelopment in New Castle County (NCC). Changes to the Unified Development Code, re-zonings, and capital programs must all be reviewed within the context of conformity with the Comprehensive Development Plan.

Development plans must go through a two stage process as follows:

1) Exploratory Review
2) Record Process

New Castle County’s planners review proposed development plans to ensure that all required elements are included. Plans that are accompanied by an application to rezone the property are also analyzed to prepare a recommendation as to whether the change in use is appropriate and meets the goals of the Comprehensive Development Plan. Rezoning and major residential development plans are also required to hold a pre-application sketch plan review in advance of the exploratory process. The Department of Land Use (DLU) oversees the review of proposed development plans and rezoning applications to ensure that they meet legal requirements.

With input from state and other county agencies, staff review plans and rezoning applications for details and particulars relating to: Building lots, fire safety, historic resources, integration of utilities, sidewalks, site drainage and water management, transit access, transportation flow, and other components.

What We Learned…

• NCC implemented eServices as a new on-line plan review system electronically. Key highlights include:
  – ePlans – secure online plan review system
  – eApply – online permit system
  – Timing of reviews and process flow tracking is real-time
  – Building permit applications can be submitted on-line
  – Land development initial submissions and fee payment must initially be made at the Dept. of Land Use
What We Learned…(continued)

• Plan review response times and durations are not readily available on the agencies’ website

• NCC implemented a “Jobs Now” initiative focused on supporting development. Key components of the initiative include the following:
  – No defined criteria (e.g., # of jobs, payroll, project size) but primary focus is job creation
  – Applicable to commercial construction
  – Primary focus on new business, expansions and relocations
  – Initiative is primarily a coordination effort with increased focus and prioritization of internal reviews and coordination with other agencies
  – Scheduling (e.g., developing a milestone focused Gant Chart) at the project planning stage is primary focus and driving accountability to meet key milestone dates
  – Initial meetings are held with key stakeholders to establish expectations and timing requirements

• Key issues impacting timing of land use approvals often include legally required processes such as advertising, public notice, etc. that are legally required.

• There are multiple hand-offs and delays due to a lack of a concurrent process between and among agencies.

• New Castle County is not viewed as business friendly and its land use process is viewed as the most difficult in the state.

• The county has rigid concurrency requirements which don’t allow an applicant to apply without completing a Traffic Impact Study (if required).

• NCC has extensive plan requirements which are viewed as excessive.
County/Locality Land Use - New Castle County

Recommendations…(continued)

1. Continued focus on “Jobs Now” initiative
2. Prioritization of key economic development zones to fast track projects
3. Prioritized focus on TID’s and coordination with DelDOT
4. Consider utilizing third party consultants to expedite permit reviews similar to Middletown.

Economic Development Perspective

Having turnkey product capable of meeting investor timelines is key. Product approvals and development timelines along with costs should be identified prior to investor decision.
Overview & Process

The Kent County Department of Planning Services reviews and processes Land Use Application. Kent County adopted a Comprehensive Plan on September 11, 2018 that provides guidance to the future of development in the County.

Key responsibilities of the Department include:
- Variance applications to be heard by the Board of Adjustment
- Site plans and subdivision plan applications heard by the Regional Planning Commission
- Rezoning and conditional use applications heard by both the Regional Planning Commission and Levy Court

Each of the applications are reviewed by the Department of Planning services for compliance with the Kent County Zoning & Subdivision Code Ordinances. The Board of Adjustment, Regional Planning Commission and Levy Court meet on a monthly basis and the hearing is contingent upon meeting the publicly available submission deadlines.

Expectations regarding timing for approval of use are communicated as a few weeks to 18-24 months depending on the proposal.

What We Learned...

- There is no online plan submittal or review processes in place
- There are no documented guidelines or time-lines regarding review comments or feedback on plan submissions

Recommendations

1. Consider improving technology and allowing electronic submission of documents.
2. Consider increasing functionality and information available on county website. Communicate timelines to applicants and include more detailed information regarding which projects are required to go through the Regional Planning Commission review process.
3. Consider utilizing third party consultants to expedite permit reviews similar to Middletown.

Economic Development Perspective

Better coordination of county partners is needed to better illustrate support and execution of projects. Support for economic development was unclear.
County/Locality Land Use - Sussex County

Overview & Process

The Sussex County Planning & Zoning Office is responsible for administering the land use process within unincorporated areas of the county. The office is the public point of entry for subdivision, zoning change, conditional use, special use exception and accessory use requests. The Planning & Zoning Office staff supports the County’s Planning & Zoning Commission and Board of Adjustment, as well as County Council, on land use applications submitted to County government. The office manages all land use applications, and schedules public hearings on subdivision, zoning or other land use requests. The Planning & Zoning Office provides zoning information for building permits, including property line setbacks and structure locations. The 2018 Comprehensive Development Plan update was effective as of December 4, 2018 and serves as the standard for how development occurs and how land use is governed in the community over a long-term period.

What We Learned...

• Planning and zoning are making investments in training, staffing and technology to be business friendly and drive efficiency in the plan review and approval processes.
• There are no defined timelines for plan review and responses publicly available.
• There is limited publicly available information regarding the process and required information for land use approvals.

Recommendations

1. Consider evaluating resource needs within the county and staffing agency appropriately to ensure backlog of hearings remains minimal.
Overview & Process

Many authorities having jurisdiction (AHJ) must review building plans and construction documents prior to the issuance of a construction permit. The requirements vary by project type, scale and location. The process also varies by AHJ requirement. Typical permits required may include the County, City or local jurisdiction, DelDOT, DNREC, State Fire Marshal, Conservation District, and Utilities depending on the location.

Additional information regarding the construction document reviews based on the locality/department included in the following slides with a focus on the key agencies and jurisdictions with the opportunity to streamline existing permitting processes. Key agencies included in the scope of the Construction Plans and Other Permits includes the following:

- DelDOT
- DNREC
- State Fire Marshal
- Department of Health & Social Services

County or Local Jurisdiction
- New Castle County
- Kent County
- Sussex County
- City of Wilmington
- Town of Middletown

**Construction Document Review**

**Developer submits Construction Docs**
Developer submits construction documents for review and approval

**AHJ Review & Comments**
AHJ reviews construction documents and provides comments

**Approval**
Approval required prior to construction commencing

Begin Construction
Overview & Process

New construction entrance permits are required for all new entrances or modifications of existing entrances to all public roadways.

New Entrance Permit:

- An entrance permit is required to construct a new entrance or modify an existing one to state-maintained highways, streets or roads:
  
  Delaware Code, Section 146(c), Chapter 1, Title 17: *No person, firm, corporation or the like shall construct, open, reconstruct, maintain, modify or use any crossing or entrance onto a state-maintained highway, street or road, … without first having complied with standards and regulations adopted by the Department and having obtained a permit issued by the Department*

- Entrance permit requirement extends to building modifications or change in use that increases vehicular traffic (i.e. additional square footage to existing building).

- Requirements for permit vary by county.

Entrance / Construction Plan Phase

- Applicants submit entrance / construction plans that are in compliance with the DelDOT Development Coordination Manual (“DCM”).

- If the documents submitted by DelDOT are in accordance with the DCM, DelDOT reviews the documents and send comments to the applicant.

- Applicants address comments and submits final, sealed documents to DelDOT for review and approval.

- DelDOT issues plan approval.

- After completion of a TIS (if required), applicants can submit Record and Entrance plans to request LONOR and Entrance Construction Plan approval.
Overview & Process (continued)

Requirements for new entrance permits vary by county. Summary of requirements for commercial entrance permits are detailed below:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>New Castle County</th>
<th>Kent County</th>
<th>Sussex County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signed, sealed construction plans and specifications</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Hardcopy site plans stamped by DelDOT</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Verification of property ownership</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Recorded Record Plan</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Letter of No Objection to Recordation</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Itemized cost estimate for work in right-of-way</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Letter of Credit, surety agreement or escrow check for right-of-way improvements</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Traffic signal agreement</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monetary contributions</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter of Intent</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Conservation District Approval Letter</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Utility Permits</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Power of Attorney if property owner is not signing permit</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Documentation of sources of construction materials</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Construction safety letter for temporary and permanent traffic devices</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
What We Learned…

- There are inconsistencies between requests for information to be placed on record plans by DelDOT as compared to the County.
  - Examples include traffic diagrams, calculations growth factors requested by DelDOT whereas Counties ask engineering firms to remove this information.
- Stakeholders described situations in which construction inspectors would provide additional comments and input during field inspections.
- Stakeholders expressed frustration regarding cost and schedule uncertainty related to DelDOT reviews.
- Stakeholders believe that DelDOT requirements impose a significant burden on small projects.

Recommendations

1. Streamline and strengthen DelDOT review processes to ensure all departments review and provide comments to construction plans during initial review cycles.
2. Consider utilizing third party consultants to expedite permit reviews.

Economic Development Perspective

Comprehensive upfront review of construction plans with clearly defined and communicated requirements is expected by most developers.
The mission of the Department of Natural Resources and Environmental Control (DNREC) is to ensure the wise management, conservation, and enhancement of the State’s natural resources, protect public health and the environment, provide quality outdoor recreation, improve the quality of life and educate the public on historic, cultural, and natural resource use, requirements and issues.

Key areas of oversight include, but are not limited to the following:

- **Air Quality Permit** - The Division of Air Quality oversees regulations and permits governing the control of air pollution, from all sources in the state, to ensure that Delaware’s air meets State and Federal Air Quality Standards created to protect public health and the environment.
- **Aboveground Storage Tank Registration**
- **Coastal Construction Permit** - For construction activities within the defines beach area and seaward of the DNREC Building Line
- **Coastal Zone Permit** - for any new or expanded manufacturing activity that will have an impact on the environment, the economy, the aesthetics or neighboring land uses.
- **Monitor and Observation Construction Permit** - Must be obtained from DNREC prior to construction.
- **On-Site Wastewater System Forms**
- **Sediment and Stormwater Management Program**
  - Sediment control and inspection during construction
  - Post-construction inspection of permanent stormwater facilities
  - Stormwater quantity and water quality control
  - Education/training relating to stormwater
- **Water Allocation Permit** - Required for projects withdrawing water from the surface or the ground at a rate greater than 50,000 gallons per day.
- **National Pollutant Discharge Elimination System (NPDES)**
**What We Learned…**

- DNREC offers a Regulatory Advisory Service (RAS) to assist with plan compliance as a resource to owners, developers and engineers.
- Initiative in-process to transition to online services such as e-permitting and electronic document management.
- There is no formal process in place to track response metrics and status of plan reviews.
- Timing is highly dependent on type of permit and public comment periods (e.g., water permits require a 30 day public comment period and potentially a public hearing; DNREC storm water reviews can take up to 12 months to complete).
- Key drivers of reducing timing for DNREC include getting developers and engineers in early to identify potential issues and concerns.
- Many in the business community view DNREC permitting as extremely difficult and time consuming. For example, while the code includes waiver provisions for DNREC, these require sign off by the Department Secretary resulting in a bottleneck. Communication between internal DNREC divisions is also problematic, leading to unnecessary delays.

**Recommendations**

1. Increase awareness of RAS through outreach to assist in identifying and mitigating potential issues earlier in the approval process.
2. Prioritize internal initiatives to transition to electronic permitting services (E-Permitting) and electronic document management and communication protocols in order to increase efficiency and communication.
3. Develop permitting metrics and target response timelines to drive accountability for reviews.
4. Encourage communication from investor, developer and engineering community to engage and involve DNREC early in the permitting process to avoid delays.

**Economic Development Perspective**

DNREC must be included in upfront project meetings to introduce permitting requirements and facilitate the identification of downstream issues. The recommended state Project Concierge should be familiar with general DNREC requirements and help coordinate these efforts.
Overview & Process

The State Fire Marshal’s Office functions as an independent state agency under the State Fire Prevention Commission, which promulgates the State Fire Prevention Regulations, as enforced by the State Fire Marshal’s Office. The agency is charged with assisting the Chief of any fire department on request, inspections and code enforcement in health care facilities, educational occupancies, public assemblies, public accommodations, as well as issued regarding flammable and combustible liquids, flammable gases, explosives and fireworks.

The State Fire Marshal’s Office is funded by revenues from the General Fund Appropriations of the State and by revenues generated by the agency from plan reviews of new construction and licensing fees associated with fire protection systems. The State Fire Marshal is responsible for plan reviews for unincorporated areas of Delaware. Relevant permits and plan reviews conducted include the following:

- **Site Plan Submittal** - A site plan submittal is required if a new building, addition, or changes in footprint is planned. Site plan is reviewed for emergency vehicle access, fire lanes, and water mains.

- **Building Plan Submittal** - Building plan required for additions, new buildings, changes of use, renovations, and tenant fit-outs. The building is reviewed for life safety and property protection features such as exits and fire protection systems.

- **Tank Plan Submittal** - Tank plan submittal required for all flammable and/or combustible liquids and/or gas installations. Tank plan submittal is reviewed for compliance with Delaware and national codes and guidelines.

- **Fire Protection Plan Submittals** - Fire Protection Plan submittal required for all fire alarm, sprinkler, cooking equipment, hood exhaust, and hood suppression systems. Submittal is reviewed for compliance with Delaware and national codes and guidelines.
What We Learned…

- Requirements are viewed as stringent, however stakeholders in the development community believe they are fairly enforced and well communicated.
- Perception is personnel meet communicated timelines and no significant delays result from Fire Marshal Review.
- There are no defined plan review times (internal tracking average response time of ~15 working days vs. 10 working days as a target).
- There are no internal metrics tracking response review times without viewing electronic files.
- New software program being rolled out to manage plan review status to allow for tracking ownership of documents and metrics.

Recommendations

1. Promote new software being rolled out to manage review process and identify ways to assist other agencies in implementing similar initiatives.
2. Participate in the Project Concierge initiative.

Economic Development Perspective:
Consistent communication of review process and stated response timelines provides developers with assurance during review and is a perceived strength of the State Fire Marshal’s Office.
Overview & Process

The Department of Health & Social Services’ (DHSS) mission is to improve the quality of life for Delaware’s citizens by promoting health and well-being, fostering self-sufficiency, and protecting vulnerable populations. Key construction plan reviews performed by DHSS include the following:

- Delaware Health Resource Planning Board, part of DHSS, reviews construction documents for all projects meeting any of the criteria outlined below:
  1. The construction, development or other establishment of a health care facility or the acquisition of a nonprofit health care facility.
  2. Any expenditure by or on behalf of a health care facility in excess of $5,800,000. A capital expenditure for purposes of constructing, developing or otherwise establishing a medical office building shall not be subject to review under this chapter.
  3. A change in bed capacity of a health care facility which increases the total number of beds by more than 10 beds or more than 10 percent of total licensed bed capacity, whichever is less, over a 2-year period.
  4. The acquisition of major medical equipment, whether or not by a health care facility and whether or not the acquisition is through a capital expenditure, an operating expense or a donation.

- Delaware Public Health, part of DHSS, reviews plumbing construction plans for all food serving establishments.

- A review by the DHSS Office of Drinking Water is required for site water systems despite reviews by public utilities, resulting in duplicate reviews.

What We Learned…

- Reviews conducted by DHSS are generally part of the building permit review. In many cases, such reviews cannot begin until a final site plan has been approved by the local jurisdiction, thereby adding several months to the permitting process.

- The Department appeared to have limited technology and staff to help execute on workflow which could ultimately cause delays in permit reviews.

- Visibility of policies and requirements appeared to be limited.

Recommendations

- Participate in the proposed Project Concierge process.

- Evaluate technology improvements to help elevate staffing constraints.
Overview & Process

New Castle County is responsible for reviewing all construction permit applications in unincorporated New Castle County. The submission requirements vary on the proposed project. These requirements are summarized on the New Castle County website.

Key requirements for non-residential (e.g., commercial permits) include the following:

- Building Plan
- Evaluation Form for Building Energy Code Compliance
- Statement of Special Inspections
- NCC Approved Lines and Grades (L&G) Plan and the latest Grading Plan

OR

- Site Plan
- Approved and Executed Record Plan
- Building Plan Compliance Certifications
- Sewer Agreement or Land Development Improvement Agreement (LDIA)
- Perimeter Control Inspection (PCI) For Sediment and Stormwater Approval or Waiver

What We Learned…

- New Castle County is in the process of developing an online inspection scheduling system.
- New Castle County has a easy to navigate website that allows owners and developers to determine if permits are required for their project; however, timelines are not clearly communicated.
- Perception in development community that New Castle County may be overly relying on outside engineering firms to review construction plan review and these outside firms are inconsistent in their review.
- Perception that New Castle County historically did not look favorably toward development.

Recommendations

1. Consider improving website to clearly outline review timeline and process.
Kent County is responsible for reviewing all construction permit applications in unincorporated Kent County. The submission requirements vary on the proposed project. These requirements are summarized on the Kent County website.

Key requirements for obtaining a permit include:

**Building Permit Requirements:**
- Ownership Information, address and Phone number.
- Letter of permission.
- Two sets of plot plans.
- Two sets of sealed construction drawings.
- Energy Code compliance.
- Recorded site plan.
- Certificate of use.
- Public Health approval.
- Contract price.
- Elevation Certificate.

<table>
<thead>
<tr>
<th>External Permits</th>
<th>Responsible Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Well Permits</td>
<td>DNREC</td>
</tr>
<tr>
<td>On-site Wastewater Permit</td>
<td>DNREC</td>
</tr>
<tr>
<td>Highway Entrance Permit</td>
<td>DelDOT</td>
</tr>
<tr>
<td>Sanitary Sewer System</td>
<td>Kent County Administrative Complex</td>
</tr>
<tr>
<td>Kent Conservation Permit</td>
<td>Kent Conservation District</td>
</tr>
<tr>
<td>State of Delaware Fire Marshall</td>
<td>State of Delaware Fire Marshal</td>
</tr>
<tr>
<td>Approval</td>
<td></td>
</tr>
</tbody>
</table>
What We Learned…

- Perception that Adequate Public Facilities Ordinance is viewed as redundant with DelDOT process and creates an anti-development sentiment for potential developers.

Recommendations

1. Participate in the proposed Project Concierge process.
2. Consider aligning local ordinances with state requirements to eliminate the potential for duplication.
3. Consider engaging consultants to expedite permit reviews.
Sussex County Construction Review

Overview & Process

Sussex is responsible for reviewing all construction permit applications in unincorporated Sussex. The submission requirements vary on the proposed project. These requirements are summarized on the Sussex website and are summarized as follows:

Commercial Projects Permit Process

Required Paperwork:
• (2) sets of original sealed plans if property is not served by County sewer
• (3) sets of original sealed plans if property is served by County sewer
• Site plan (Must be approved by planning & Zoning if out of town limits)

Supplemental Paperwork:
• Septic Permit
• County Engineering Approval
• Elevation Certificate – required prior to step 4
• Beach Preservation Approval – required prior to step 4
• Town Permit/Town Letter (if within town limits)
• Sussex Conservation District Approval
• Fire Marshal Approval
Sussex County Construction Review

What We Learned…

• Sussex County is generally viewed as favorable toward development.
• Stakeholders in the development community expressed that recent changes have slowed the review and issuance of construction permits.
• Perception that the county is short-staffed to meet permitting demands and review timelines.

Recommendations

1. Consider evaluating staffing and increasing if necessary.
2. Consider prioritizing electronic plan review and permitting processes.
3. Consider engaging consultants to expedite permit reviews.
Overview & Process

The Department of Licenses and Inspections is responsible for issuing permits, licenses, certificates and inspections to help ensure compliance of the building code. Key activities include reviewing construction permits and conducting inspections. The City of Wilmington uses an online portal to allow for tracking of the status of an individual permit application or inspection. In addition, the City website includes detailed instructions for key activities to apply for permits and inspections. The Development Review Step-by-Step Guide summarizes the key processes to obtain all permits and approvals required for constructing, improving or demolishing a building in the City. Checklists exist to assist in navigation through the process.

What We Learned…

- The City of Wilmington Permitting processes and guidelines are clearly documented and accessible.
- The ability to determine the status of your permit application is available online (On-Base).
- Limited delays due to road improvements or meeting DelDOT requirements as infrastructure is largely in place.

Recommendations

1. Participate in the proposed Project Concierge process, helping to share lessons learned from locally driven improvements.
2. Consider engaging consultants to expedite permit reviews.
Town of Middletown Construction Review

Overview & Process
The Town of Middletown planning and permitting process is managed by the Business Licensing and Building Inspections Department. There is a standard process in place to allow for review of conceptual plans and allow developers and investors for conditional use approvals by council. This allows for concurrent reviews with the PLUS process. In addition, Middletown relies on third party reviewers to assist in the review of plans as needed to allow for streamlined development. Middletown is the location of a Transportation Improvement District (TID) that allows for streamlined approvals and limits delays due to the traffic impact studies or DelDOT permitting processes.

What We Learned…
• There is an increased focus on development including streamlining processes and responsiveness to the developer community.
• Middletown benefits in a streamlined permitting process due to the approved Traffic Improvement District.
• Proactive mentality of assisting developers through the process while maintaining compliance with codes through regularly scheduled internal meetings focused potential delays or challenges.
• Middletown utilizes consultants to perform expedited construction plan reviews, one reason why they are viewed as the most business friendly and efficient review process in the state.
• Middletown will allow construction to begin with phased approvals and without the completion of approvals by other agencies.

Recommendations
1. Participate in the proposed Project Concierge process, helping to share lessons learned from locally driven improvements.
Economic Contribution Analysis
Economic Contribution of Permitting

Question posed: If the permitting process’ duration could be made more efficient so that timelines are shorter, what does Delaware’s economy stand to gain? Conversely, what benefit is foregone if the process’ duration is unchanged?

- Re-location of new firms and expansion of existing businesses plays a significant role in economic development throughout Delaware. A well-understood and efficient permitting process provides vital support by reducing uncertainty and guiding development.

- Economic activity is generated by:
  - New construction or development
  - Re-development or rehabilitation projects
  - Ongoing direct expenditures for permitted projects
  - Retention or attraction of workers, generation of income and tax revenue

- This analysis quantifies the change in the level of expected economic activity in Delaware between a no-delay scenario and a 6-month delay in the start of the construction phase (short term) and operating phase (long term) of three representative projects. The projects do not represent any particular firm’s costs but are based on industry averages and typical cost profiles.
Economic Contribution Analysis: Process - Overview

• Since data on the aggregate number of projects or the number of projects that did not move forward due to permitting issues was unavailable, KPMG selected representative projects based upon feedback, case studies and qualitative information gathered during in-person interviews with stakeholders.

• KPMG relied on a selection of representative projects occurring in Delaware. KPMG utilized 3 project archetypes in the analysis:
  • A multi-specialty care facility or hospital
  • A professional & business services office building or headquarters building
  • A gasoline station

• KPMG estimated the economic contribution of each of the representative projects to provide context for the discussion about the possible benefits of such projects.

• KPMG relied upon publicly available data sources to support assumptions.
  • Data on current commuting patterns capture important regional dynamics including the residence and daily movement of the workforce.
  • These dynamics are used to assess “leakages,” or spending outside of the state economy.
  • Market data on project size, construction cost, operating cost, average wage and salary benefits, and level of employment are used to construct an economic contribution estimate.

• KPMG estimates the impact of delays (i.e., timing impact) by assuming a hypothetical extent of delay occurs prior to the project start. The difference in the present value of the project plus the loss of economic activity during the period of delay represents a measure of the cost of a delay.
Economic Contribution Analysis Process

Step 1
Conduct Interviews
Held in-person interviews with key stakeholders and selected representative projects based upon feedback gathered

Step 2
Research and Collect
Researched typical construction costs of the 3 project archetypes considered in this study:
- Hospital
- Office Building
- Gasoline Station

Step 3
Analyze and Categorize
- Reviewed construction and operational costs for each project archetype
- Categorized components of each cost category for import into IMPLAN economic impact software, employing generally accepted modeling techniques

Step 4
Measure
Measured economic contribution of construction using IMPLAN output in two ways:
- Assuming (i) immediate start
- Assuming (ii) 6 month delayed start

Step 5
Report
Summarized and interpreted results

What the economic contribution estimate does include:
- Contribution of direct expenditures from capital investments (capital and labor)
- Contribution of direct expenditures during operations (i.e., during a typical year)
- Includes indirect and induced effects ("spillover effects")
- Measured in terms of state output, employment supported, labor income, and state and local taxes

What the economic contribution estimate does not include:
- Negative externalities (e.g., congestion, pollution, quality of life impacts)
- Costs of re-zoning
- Political, reputational, or public educational costs
Delaware State Economy Snapshot

Delaware’s Top 5 Fastest-Growing Industries

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Education &amp; Health</td>
<td>+ 14.1%</td>
</tr>
<tr>
<td>Leisure &amp; Hospitality</td>
<td>+ 13.2%</td>
</tr>
<tr>
<td>Professional &amp; Business</td>
<td>+ 8.7%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>+ 7.9%</td>
</tr>
<tr>
<td>Financial Activities</td>
<td>+ 5.4%</td>
</tr>
</tbody>
</table>

Resident population of 967,171
- Increase of 7.7% since 2010

Mean travel time to work is 25.7 minutes

Unemployment rate of 3.2%
- 7th lowest in the U.S.

Population with at least a bachelor’s degree: 31.0%

Per capita income: $32,625 (2017 dollars)
- 4.6% greater than U.S. average

Per capita retail sales: $17,248 (2017 dollars)
- 17.3% greater than U.S. average

Student population: 117,000

Delaware’s Key Employment Classifications

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Location Quotient (U.S. = 1.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemists</td>
<td>5.4</td>
</tr>
<tr>
<td>Credit Analysts</td>
<td>5.3</td>
</tr>
<tr>
<td>Financial Analysts</td>
<td>3.6</td>
</tr>
<tr>
<td>Medical Secretaries</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Representative Projects

In order to approximate the economic cost of permitting delays, KPMG analyzed one representative project from the following sectors:

<table>
<thead>
<tr>
<th>Gas Station</th>
<th>Medical Complex / Hospital</th>
<th>Office Building</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leisure &amp; Hospitality — Tourism</strong>¹</td>
<td><strong>Health Services — Aging Population</strong></td>
<td><strong>Professional &amp; Business, Financial Activities</strong></td>
</tr>
<tr>
<td>- In 2017 Delaware had 9 million visitors</td>
<td>- One of Delaware’s largest and fastest-growing industries</td>
<td>- Comprises a large and growing segment of Delaware’s employment</td>
</tr>
<tr>
<td>- Tourism contributed $3.4 billion to Delaware’s 2017 GDP</td>
<td>- 18.7% of Delaware’s 2018 population was older than 65, an increase of 7.7% from 2010⁴</td>
<td>- Top 3 industries with the greatest increase in GDP contribution from 2014 to 2018 are all office-using⁶</td>
</tr>
<tr>
<td>- Tourism is 4th largest private employer in the state, accounting for approx. 43,000 jobs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interstate Highways</th>
<th>Retirement Friendly⁵</th>
<th>Number of Office Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Approximately 46% of total US population resides within a day’s drive of Delaware²</td>
<td>- Low cost of living, high quality of life</td>
<td>- Approximately 38% of Delaware workers have jobs that require office space ⁶</td>
</tr>
</tbody>
</table>
| - Within 150 miles of Baltimore, Philadelphia, D.C., New York City³ | - Delaware has no tax on:  
  - Social Security Benefits  
  - Sales  
  - Estate or Inheritance  
  Making it an attractive place for retirees who want to be located in the Northeastern US | |

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¹[1](https://www.visitdelaware.com/industry/tourism-statistics/)  
²US Census Bureau; Leah’s data follow up, assuming 14 hour driving maximum per day  
³Google Maps  
⁴[2](https://www.census.gov/quickfacts/DE)  
⁵[3](https://www.census.gov/quickfacts/DE)  
⁶[4](https://www.census.gov/quickfacts/DE)  
⁷[5](https://revenue.delaware.gov)  
⁸Bureau of Labor Statistics
Economic Contribution Analysis - Process - Overview

The state economy’s core is shifting from chemical, automobile and poultry production to specialized service sector industries including healthcare and life sciences, tourism, finance and information/technology, and aerospace/aviation.

Projects are representative in nature and do not reflect actual project costs for any particular project. Representative estimates are intended to capture an aspect of Delaware’s current or anticipated future growth drivers. Project costs are based on industry averages, specialized industry reports, and public and proprietary surveys. Where possible, costs are adjusted to provide indicative estimates for Delaware as of approximately the calendar year 2018.

Project 1: Gasoline station with attached convenience store

- Delaware’s transportation infrastructure supports tourism and transportation/trade
- Represents a small project that may be more common in the state
- Business serves as an enabler for further economic activity, benefits commuters
- Gasoline station may require interaction with DelDoT and DNREC

Project 2: Professional services office building

- Buildings such as these are developed to provide an alternative to more expensive metro areas such as Philadelphia, New York, and Washington D.C.
- KPMG considered a range of size for the building, ranging from a 20,000 sq. ft. mixed-use building on the smaller end to a 100,000 sq. ft. headquarters building
- Assumed to be location of professional & business services or financial activities jobs, which contribute to economic growth through wages

Project 3: Hospital or multi-specialty medical complex

- Driven largely by growth in Delaware’s population, including age 65+ group
- Representative of a large and specialized project, requires specialized jobs and equipment
- Intended to capture within-state institutional investment
- May be subject to a risk of a delay in the construction phase
Economic Contribution Analysis - Process - Overview

To undertake our analysis, we apply a traditional input-output modeling approach. This approach recognizes the interdependence among different sectors of the economy and measures the additional economic activity generated by a business. This is accounted for via the use of multipliers\(^1\), which is a quantitative technique to capture the ratio between a direct contribution and wider contributions.

Investment in Delaware can boost the state economy in a number of ways. For example, spending on construction and operations can lead to gains in employment and output directly, purchases of supplies or equipment from other businesses based in Delaware, and increases in income that lead to further increases in spending by households in Delaware.

For each project, we consider two distinct phases of its contribution: the contribution during the construction phase and the contribution during the operations phase.

The construction phase includes the cost to purchase the materials and labor used directly in the construction of the project. Delays in the construction phase are treated as shifting economic activity into future years. The nominal level of construction activity remains constant in a delay scenario, but a portion of the level of activity that occurs in the first year of construction is shifted to a future year.

The operations phase includes the expenditures typically incurred by the operation of each project or building over the course of a representative year. These expenditures typically include, for example, professional services to maintenance providers or contractors, costs of goods purchased for sale or use, and the cost of replacing equipment. Delays in the operations phase are modeled by shifting into future years operations that would have occurred in the current year. The operational impact is expressed in a representative year format, as it represents the contribution during a typical year of operations. Because project operations are assumed to persist into perpetuity, a delay in the operations would not be expected to be recouped at a later date.

The operations phase also includes compensation of employees. We make assumptions about the number of employees and average wage based on labor market surveys in Delaware. We report the contribution from operational spending during a representative year of operations excluding labor income (wage and salary plus non-wage benefits) separate from the contribution from labor income during a representative year of operations.

\[1\] Multiplier = \((\text{Direct contribution} + \text{Indirect contribution} + \text{induced contribution})/\ \text{Direct contribution}.\]
Economic Contribution Estimates - Overview

Construction
- Material Costs
- Labor Costs
- Building Costs

Operations
- Cost of Goods Sold
- Utilities
- Employee Compensation
- Maintenance

Regional Economic Multipliers from Input-Output Modeling System

Direct, Indirect and Induced Contributions

- Economic Output
- Jobs
- Wages
- Taxes
Economic Contribution Analysis Process - Overview

The economic contribution outputs are considered in terms of **direct**, **indirect**, and **induced** effects:

- **Direct contribution**: The direct result of spending by each project on the state of Delaware on day-to-day operations, construction activities, and compensation of its direct employees.

- **Indirect effects**: The measure of change in economic activity and employment as a result of the spending by local suppliers of each project (those businesses from whom supplies or services are purchased).

- **Induced effects**: Reflects changes in economic activity as a result of spending of labor income by employees supported by the direct and indirect effects of each project.

The sum of all of the above effects is the size of the overall economic contribution.

KPMG uses the “expenditure approach” to estimate the economic contribution associated with each project. Under the expenditure approach, the primary inputs into the input-output model take the form of project expenditures. These expenditures are used to calculate the direct economic contribution. The indirect and induced economic effects are modeled using input-output multipliers.

A multiplier is a quantitative technique to capture the ratio between a direct contribution and wider indirect and induced contributions. For example, an increase in demand for a product or service affects not only the provider but also its supply chain and employment needs. Multipliers vary by industry and region.

The economic impact estimates do not include certain broader dimensions of the impact that delays in projects could cause. For example, a delay in a major project could place greater competitive pressures on certain businesses, leading to greater competition and lower market share. In addition, delays in certain projects could lead to greater competition later on for employees, if competitors in neighboring states recruit experienced employees or students that otherwise would have been employed in Delaware. Such impacts are not included as part of this analysis.
### Contribution Estimates - Gasoline Station

For each Gas Station in Delaware, a six month delay could result in a loss of economic contribution of:

- **20 Job-Years**
- **$1M** in Labor Income
- **$3M** in potential gained or lost output

#### Gas Station Completed on Schedule

<table>
<thead>
<tr>
<th>Employment (# FTEs in job-years)</th>
<th>Labor Income ($M)</th>
<th>Output ($M)</th>
<th>State &amp; Local Tax ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>70</td>
<td>$3.50</td>
<td>$10.00</td>
</tr>
<tr>
<td>Operations</td>
<td>20</td>
<td>$1.00</td>
<td>$2.50</td>
</tr>
<tr>
<td><strong>Total Contribution</strong></td>
<td><strong>90</strong></td>
<td><strong>$4.50</strong></td>
<td><strong>$12.50</strong></td>
</tr>
</tbody>
</table>

#### 6 Month Delay in Completion

<table>
<thead>
<tr>
<th>Employment (# FTEs in job-years)</th>
<th>Labor Income ($M)</th>
<th>Output ($M)</th>
<th>State &amp; Local Tax ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>50</td>
<td>$3.00</td>
<td>$8.00</td>
</tr>
<tr>
<td>Operations</td>
<td>20</td>
<td>$0.50</td>
<td>$1.50</td>
</tr>
<tr>
<td><strong>Total Contribution</strong></td>
<td><strong>70</strong></td>
<td><strong>$3.50</strong></td>
<td><strong>$9.50</strong></td>
</tr>
</tbody>
</table>

#### Potential Economic Loss due to 6 Month Delay

<table>
<thead>
<tr>
<th>Employment (# FTEs in job-years)</th>
<th>Labor Income ($M)</th>
<th>Output ($M)</th>
<th>State &amp; Local Tax ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>-20</td>
<td>-$0.50</td>
<td>-$2.00</td>
</tr>
<tr>
<td>Operations</td>
<td>0</td>
<td>-$0.50</td>
<td>-$1.00</td>
</tr>
<tr>
<td><strong>Total Contribution</strong></td>
<td><strong>-20</strong></td>
<td><strong>-$1.00</strong></td>
<td><strong>-$3.00</strong></td>
</tr>
</tbody>
</table>

*Labor contribution not included for the total contribution of the gas station due to the assumption of a near complete overlap with operational contribution.*
## Contribution Estimates - Office Building/H.Q.

### Office Building Completed on Schedule

<table>
<thead>
<tr>
<th>Employment (# FTEs in job-years)</th>
<th>Labor Income ($M)</th>
<th>Output ($M)</th>
<th>State &amp; Local Tax ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>130 to 590</td>
<td>$8.00 to $35.00</td>
<td>$18.00 to $80.00</td>
</tr>
<tr>
<td>Operations</td>
<td>70 to 330</td>
<td>$7.00 to $37.00</td>
<td>$1.00 to $5.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>200 to 920</strong></td>
<td><strong>$15.00 to $72.00</strong></td>
<td><strong>$19.00 to $85.00</strong></td>
</tr>
</tbody>
</table>

### 6 Month Delay in Completion

<table>
<thead>
<tr>
<th>Employment (# FTEs in job-years)</th>
<th>Labor Income ($M)</th>
<th>Output ($M)</th>
<th>State &amp; Local Tax ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>110 to 470</td>
<td>$6.00 to $28.00</td>
<td>$14.00 to $64.00</td>
</tr>
<tr>
<td>Operations</td>
<td>30 to 170</td>
<td>$3.00 to $18.00</td>
<td>$0.00 to $3.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>140 to 640</strong></td>
<td><strong>$9.00 to $46.00</strong></td>
<td><strong>$14.00 to $67.00</strong></td>
</tr>
</tbody>
</table>

### Potential Economic Loss due to 6 Month Delay

<table>
<thead>
<tr>
<th>Employment (# FTEs in job-years)</th>
<th>Labor Income ($M)</th>
<th>Output ($M)</th>
<th>State &amp; Local Tax ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>-20 to -120</td>
<td>-$2.00 to -$7.00</td>
<td>-$4.00 to -$16.00</td>
</tr>
<tr>
<td>Operations</td>
<td>-40 to -160</td>
<td>-$4.00 to -$19.00</td>
<td>-$1.00 to -$2.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>-60 to -280</strong></td>
<td><strong>-$6.00 to -$26.00</strong></td>
<td><strong>-$5.00 to -$18.00</strong></td>
</tr>
</tbody>
</table>

*Ranges based on the assumption on the impact of a 20,000 sq. ft. facility and 100,000 sq. ft. facility, respectively.

For each Office Building in Delaware, a six month delay could result in a loss of economic contribution of:

- **60 – 280** Total Job-Years
- **$6M – $26M** in Labor Income
- **$5M – $18M** in potential gained or lost output

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**Contribution Estimates - Multispecialty/Hospital**

For each Hospital in Delaware, a six month delay could result in a loss of economic contribution of:

- **780 – 1,610** Total Job-Years
- **$50M – $120M** In Labor Income
- **$125M – $245M** in potential gained or lost output

### Hospital Completed on Schedule

<table>
<thead>
<tr>
<th>Employment (# FTEs in job-years)</th>
<th>Labor Income (SM)</th>
<th>Output ($M)</th>
<th>State &amp; Local Tax ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>1,590 to 3,190</td>
<td>$95.00 to $195.00</td>
<td>$280.00 to $565.00</td>
</tr>
<tr>
<td>Operations</td>
<td>730 to 1,540</td>
<td>$65.00 to $140.00</td>
<td>$95.00 to $185.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,320 to 4,730</strong></td>
<td><strong>$160.00 to $335.00</strong></td>
<td><strong>$375.00 to $750.00</strong></td>
</tr>
</tbody>
</table>

### 6 Month Delay in Completion

<table>
<thead>
<tr>
<th>Employment (# FTEs in job-years)</th>
<th>Labor Income (SM)</th>
<th>Output ($M)</th>
<th>State &amp; Local Tax ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>1,170 to 2,350</td>
<td>$75.00 to $145.00</td>
<td>$205.00 to $410.00</td>
</tr>
<tr>
<td>Operations</td>
<td>370 to 770</td>
<td>$35.00 to $70.00</td>
<td>$45.00 to $95.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,540 to 3,120</strong></td>
<td><strong>$110.00 to $215.00</strong></td>
<td><strong>$250.00 to $505.00</strong></td>
</tr>
</tbody>
</table>

### Potential Economic Loss due to 6 Month Delay

<table>
<thead>
<tr>
<th>Employment (# FTEs in job-years)</th>
<th>Labor Income (SM)</th>
<th>Output ($M)</th>
<th>State &amp; Local Tax ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>-420 to -840</td>
<td>-$20.00 to -$50.00</td>
<td>-$75.00 to -$155.00</td>
</tr>
<tr>
<td>Operations</td>
<td>-360 to -770</td>
<td>-$30.00 to -$70.00</td>
<td>-$50.00 to -$90.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>-780 to -1,610</strong></td>
<td><strong>-$50.00 to -$120.00</strong></td>
<td><strong>-$125.00 to -$245.00</strong></td>
</tr>
</tbody>
</table>

*Ranges based on the assumption of a the impact of a hospital with 65 and 130 beds, respectively.*
Economic Contribution Model Assumptions

- All Projects
  - Where possible, we adjust project expenditures to reflect Delaware-specific labor and materials costs.
  - We increase the mean wage using a percentage of implied benefits based on Bureau of Labor Statistics' National Compensation Survey data specific to each industry.
  - We use an analysis-by-parts technique to separate the indirect and induced effects of each project event into individual components.

- Gasoline station
  - We express operational expenditures as a percentage of the assumed level of gross profit (e.g., revenue less cost of goods sold, i.e., cost of purchasing goods for sale and bringing them to their location and condition).
  - We assume the typical gasoline station with a convenience store in DE generates $1.8 million annually in gross profit. This would consist of $720,000 from sale of fuel; $960,000 from sale of merchandise, and $120,000 from other sales including lottery tickets, ATM fees, fuel rebates, etc.
  - The mean annual wage of a representative gasoline station employee ($23,560) takes into consideration typical food service line worker and attendant wages in Delaware in 2018, as reported by BLS Occupational Employment Statistics.
  - We estimate employment at the gasoline station based on an average number of indicative employees based on figures from prior project experience.

- Office building
  - We developed an impact range based on two endpoints—a 20,000 sq. ft. building and a 100,000 sq. ft. building. The lower end is intended to represent the cost to construct a general purpose or mixed-use office building whereas the upper end is intended to represent the cost to construct a headquarters building.
  - We estimate the employment at the office building based on an indicative number of tenant (employees) per square foot, adjusted by an assumed average vacancy rate.
  - The mean annual wage of a representative office building worker ($81,902) takes into consideration the average for all business/professional services workers as reported by the Bureau of Labor Statistics for Delaware in 2018.

- Medical complex / Hospital
  - Lower end of range $40 million may represent a smaller component of a medical center, such as a multispecialty facility, or a specialty center. The higher end of the range represents a hospital in the range of 130 inpatient bed intended to serve a community and surrounding region.
  - We estimate employment at the hospital based on a ratio of hospital workers to number of hospital beds as measured based on an average from other studies.
  - The mean annual wage of a representative health care worker ($87,520) takes into consideration the average for all healthcare workers as reported by the Bureau of Labor Statistics for Delaware.
IMPLAN Model Description

- The Impact Analysis for Planning ("IMPLAN") model is a microcomputer-based program that allows construction of regional Input-Output models for areas as small as a county and aggregation of individual county databases for multi-county analysis. IMPLAN was originally developed for the U.S. Department of Agriculture and is maintained and supported by the Minnesota IMPLAN Group, Inc., Stillwater, Minnesota.

- The components of the IMPLAN database form the economic accounts of an individual county, several counties, or an entire state. These accounts show the flow of commodities to industries and institutional consumers in 536 separate industries in agriculture, mining, construction, manufacturing, wholesale and retail trade, utilities, finance, insurance and real estate, and consumer and business services. Each industry is described in terms of its purchases from and sales to all other industries in the local economy. Values for all activities are in producers’ prices and do not include transportation costs or other additional transaction costs associated with delivering outputs from each industry to other intermediate users.

- Final demands are goods and services purchased for their ultimate use by an end user. They include personal consumption expenditures (payments by individuals or households to industries for goods and services for personal consumption); federal government purchases (military and nonmilitary) and sales; state and local government purchases (public education and non-education) and sales; inventory purchases (unsold annual output) and sales (where inventory reduction exceeds additions from production); capital formation (expenditures to obtain capital equipment); and foreign exports. Final demands are allocated to producing industries, and margins are allocated to the service sectors (transportation, wholesale and retail trade, insurance, etc.) associated with providing that good to the final user.
IMPLAN Model Description (continued)

- The IMPLAN model provides the necessary information to estimate a complete set of regional economic accounts for a local area. The economic accounts are then converted to industry through the use of Input-Output accounts and a set of Leontief multipliers. The initial data set is the "use" of commodities by industry and the "make" of commodities by industry. These flows are derived for the local area from the national Input-Output accounts. Final demands, output, and employment are derived for each data set. Employment numbers are also derived for each industry in the local area.

- To create a regional Input-Output model for the local area, the regional data are combined with the 1992 national structural matrices produced by the Bureau of Economic Analysis, U.S. Department of Commerce. This operation produces regional structural matrices and eliminates industries that do not exist in the region. Imports are then estimated via the calculation of regional purchase coefficients ("RPC"s). An RPC represents the proportion of the total locally produced supply of a good or service required to meet a particular industry's intermediate and final demands; RPCs range between 0 and 1. In the IMPLAN model, RPCs are derived from the 1977 Multi-Regional Input-Output Accounts, a cross-sectional database of Input-Output regional accounts linked with consistent interstate trade flows. Imports are calculated by using the minimum of the RPC or the supply/demand pool. The regional final demands and the use matrix are then multiplied by the resulting RPC coefficients, which creates a set of matrices and final demands that are free of imports. Domestic exports are the residual of regional production not locally consumed. The result is a balanced set of regional economic accounts.
IMPLAN Model Description (continued)

- The Input-Output accounts are then developed. The regional use matrix and final demands are converted from a commodity basis to an industry basis by using the market share hypothesis. The subsequent inversion of the Input-Output accounts provides an import-free Leontief matrix of multipliers.

- The notion of a multiplier or ripple effect rests on the difference between the initial effect of a change in demand and the total effect of that change. Total effects can be calculated either as direct and indirect effects or as direct, indirect, and induced effects. Direct effects are production changes associated with the immediate effects or final demand changes. Indirect effects are production changes in backward-linked industries caused by the changing input needs of directly affected industries, that is, additional purchases to produce additional output. Induced effects are changes in regional household spending patterns caused by changes in household income generated by the direct and indirect effects.

- IMPLAN estimates four sets of multipliers, corresponding to four measures of regional economic activity: total industry output, personal income, total income, and employment. These multipliers are used to estimate the impact of changes in expenditures in an industry that provides inputs to a particular existing or new activity.
## Examples of Economic Contribution

<table>
<thead>
<tr>
<th>Phase</th>
<th>Expenditure (Direct Effect)</th>
<th>Indirect Effect</th>
<th>Induced Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Phase</td>
<td>Spending on third-party contractor to create site improvements advance of construction of the foundation</td>
<td>Third-party contractor purchases additional equipment and machinery and hires additional employees to satisfy the request</td>
<td>New employees hired by third-party contractor purchase additional goods and services locally</td>
</tr>
<tr>
<td>Operations Phase</td>
<td>Spending on routine maintenance of the facility, supplied by a third-party vendor</td>
<td>Maintenance provider purchases additional equipment and machinery and hires additional employees to perform the service</td>
<td>New employees hired by third-party contractor purchase additional goods and services locally</td>
</tr>
</tbody>
</table>
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