Traffic Impact Study (TIS)/Traffic Operational Analysis (TOA)

Service Efficiency Blitz Report – September 2025

Background and Purpose

The Traffic Impact Study (TIS)/Traffic Operational Analysis (TOA) Section (collectively referred to as "TIS" hereafter) provides traffic analysis and safety recommendations for land use development projects that the Delaware Department of Transportation (DelDOT) finds to be critical with regard to traffic impact. DelDOT may require a TIS when a land use development project is estimated to generate more than 500 daily trips (on average) or 50 peak hour trips during the busiest travel hour of the day for a given area. A TOA may be required when a land use development project is estimated to generate more than 200 daily trips (on average) and a TIS is not completed. In September 2025, a Service Efficiency Blitz (SEB) led by the TIS Section of DelDOT and the Government Efficiency and Accountability Review (GEAR), examined the customer journey and performance of the TIS process. Four participants from DelDOT's TIS and Development Coordination Sections were represented in the event. The primary bottleneck and solutions identified for the program focused on rework and resubmissions that occur within 80% of all projects that the TIS Section handles. This is a significant cost to both DelDOT and developers, estimated at $680,000 annually. The effort and resulting actions align with reducing rework and resubmissions that occur within TIS, aligned with the Governor's priorities on streamlined permitting and affordable housing.

Maximizing Value

The SEB process reaffirmed the key customers of TIS and reinforced the mission of the program by focusing on the core values of:

- Excellence in transportation,
- Safe, reliable, convenient trips and modes of transport,
- Best value for every dollar spent, &
- Customer and employee engagement.

The TIS program is statutorily authorized under DelDOT's purview with details on how the program is administered set forth in the Development Coordination Manual (DCM), which is found in Delaware Administrative Code under Title 2, Section 2309. The mission of the TIS Section is clearly stated at the outset of this Title – "to provide a clear process for determining transportation impacts associated with new development so that the impacts can be mitigated, and system capacity can be preserved…in order

to accommodate a proposed development access, traffic must operate safely and at satisfactory Levels of Service LOS[1]).”

The customer segments central to the TIS process are:

- The land use development community (by addressing the needs of both large & small businesses – primarily valuing efficiency and effective resource usage),
- The traveling public (by focusing on safety and the quality of LOS on roadways according to industry-based standards),
- Taxpayers (by ensuring the maintenance and development of roadway infrastructure, safety, and sustainable economic development), &,
- Local land use agencies (by providing resources, coordination, and planning support before they approve finalized development plans).

Given the differing needs of these groups, the value propositions analyzed were based on the perspectives of specific customer segments, for example - small business owners who have no experience with the TIS process, as well as large developers who have repeated experience with TIS – each deriving a distinct value proposition from the process. While the value proposition of TIS became clear for certain customer segments, it was revealed that the ability to formally measure customer value is not in place for the program. To date, anecdotal evidence of the customers’ experience and satisfaction are available, primarily generated through discussions at quarterly American Council of Engineering Companies (ACEC) of Delaware meetings that DelDOT participates in. Overall, the DelDOT participants in the SEB event asserted that they need to balance the interests of the development community surrounding efficient processing of land use approvals and permits with the interests of the traveling public surrounding safety and adequate levels of service on Delaware’s roadways.

Immediate Achievements and Results

The project team formulated a hypothesis that if the program standardizes and streamlines the TIS and TOA submissions/reviews through checklists, combining steps, and uniform data entry, it will have a measurable impact on the overall process timeline and resubmission cycles by at least 33% - which would result in at least $154,000 saved annually to be reinvested within the program. The calculations for these outcomes are based on the initiatives outlined in the table below, though results will be further improved based on implementation of the quick wins and strategic bets discussed in the upcoming sections.

TIS Process Immediate Changes and Benefits

✅ Eliminated 3 business days from overall TIS/TOA processing time (from 96 to 93 days)

✅ Consolidated two internal process steps into one step that is projected to reduce rework [resubmissions] required by developers by 33% - saving $112,500 annually

✅ Improving customer and DelDOT alignment through critical items for acceptance checklists that ensure all required documentation from developers is being submitted accurately to DelDOT

[1] Levels of Service (LOS) are standards set forth by the U.S Department of Transportation that include recommended calculations to determine acceptable standards of service on roadways and intersections. The LOS are “graded” A through F, with levels A through C meeting the standard, and E through F failing the standard, which may necessitate further improvement.

Outcomes and Associated Impact of the SEB Event

Metrics	Outcomes	Annualized Cost Savings and Calculation	Opportunity to Further Maximize
Overall TIS/TOA Process Time	**-3 business days** (from 96 to 93 days maximum)	**$1,687.50 x 25 projects per year = $42,187.50 saved annually** Calculation: 3 Internal DelDOT FTEs + 4 Consultants ($75 per hour blended rate) x 22.5 hours = $1,687.50 per project	Yes, processing times can be reduced further once rework/resubmissions decline
Rework Reduction by Consolidating Traffic Counts and Preliminary TIS Report Steps	2 Steps Consolidated Into 1 Step (16 out of 49 or 33% of rework instances annually **will potentially be reduced or eliminated**)	**1,500 hours x $75 rate = $112,500 in savings annually** Calculation: 25 Day Window for the original two steps completed (assume 12.5 days [-50%] for each instance of rework going forward) 12.5 days x 16 rework instances eliminated = 200 days (1,500 hours)	Yes, rework is the primary cost driver, source of non-value added activity, and point of frustration for both DelDOT staff and developers occurring in roughly 80% of all TIS/TOA projects
Customer Satisfaction and Internal Process Flow	New critical items for submission document	Added value to be generated through **customer/DelDOT alignment earlier in TIS/TOA projects, reduced inquiries & rework**	Yes, formalized surveying, focus groups, and end-user testing should be pursued to improve and align inputs, outputs, and technology systems

Other Process Improvements and Associated Impact

The details on near and mid-term improvements that were identified and launched through the event include:

I. **Quick Wins (Requiring 2-4 Weeks of Effort to Achieve – High Impact/Low Effort Enhancements)**

- Develop standardized critical items checklists for submission documents comparable to DelDOT's subdivision section to improve the quality and accuracy of applications, which will assist in eliminating unnecessary information submitted. This may include establishment of a decline function in the Planning and Development Coordination Application (PDCA) system and integrating logic models (i.e., if/then statements to solicit supplemental documentation from developers).

- Improve internal DelDOT coordination on complex projects prior to the scoping meeting and in other phases, which may include incorporating other sections' input in TIS through the PDCA system.

II. Strategic Bets (Requiring 2 to 6+ Months of Effort to Achieve – High Impact/High Effort Enhancements)

- Reduce Traffic Operational Analysis (TOA) timelines through a modified process. Currently, the TOA process mirrors the TIS process in terms of phases of work and timelines, though TOA could have a simplified process by reducing the overall timeline by half from 50 to 25 business days for smaller projects.
- Evaluate ways to increase the use of DelDOT "Option B" through improved marketing - whereby the TIS team conducts all analysis. "Option B" saves at least 3 months of time based on data reviewed for the SEB event. One potential suggestion to increase the use of "Option B" is to disincentivize the use of "Option A" through the establishment of a fee. Another option is to make "Option B" the default path unless the developer opts out and formally requests the "Option A" developer led approach.

III. Other Potential Deliverables (To Be Evaluated and Launched When Other Deliverables are Achieved)

- Improve coordination and eliminate overlapping reviews with local land use agencies (LLUAs). Specifically, coordinate with New Castle County Unified Development Code (UDC) requirements to improve alignment and efficiency between entities. Other areas for improvement in this area include:
  - Incorporating confirmation from New Castle County if they require a TIS in Appendix O (TIS Scoping Meeting Form) of the PDCA system to confirm requirements and obtain missing information.
  - To improve preparation for the scoping meeting, providing a table or layer of committed development locations in the PDCA system/Gateway (DelDOT's Geospatial Information System or "GIS").
  - Following the TIS/TOA process, establishing a mechanism for DelDOT to remain up to date if projects are approved or sunset.
- Research other software used in the industry that can help streamline modeling and analysis. This may include technology that could achieve the following:
  - Establishing a database through GIS to better search for committed developments, and over time automatically populate the committed development list (i.e., buffer within two miles).
  - Dynamically updating distribution programs (i.e., account for units built and assigned to network).
- Build and launch "TIS 2.0". Once the current set of system improvements are implemented, future enhancements may include a modernized technical set of solutions that better leverage both the Gateway and PDCA software systems to standardize data entry/calculations and add visual layers for developers and DelDOT.

IV. Parking Lot Recommendations (Deemed Outside the Scope of this Project, But May be Valuable for Others)

- Develop and expand the Expedited Review Team (ERT) process for TIS projects. The ERT currently only serves DelDOT's Record and Entrance Construction Plan review / approval process and could be expanded to include TIS and TOA. The Expedited Review Process is currently offered to qualifying projects, which bring permanent full-time jobs and affordable housing projects to Delaware. This initiative would require a modified TIS / TOA process, to expedite reviews.
- Examine additional ways to standardize and streamline inputs for the TIS and TOA processes to lessen the time invested by DelDOT in fully recreating the calculations that are also provided by developers and their engineers.

Metrics and Process Evaluation

The data provided for the TIS event was extracted from the Planning and Development Coordination Application (PDCA) software system. The PDCA is the primary system of record utilized by the DelDOT TIS Section, DelDOT Development Coordination Section, and land use developers, tracking all associated workflows and documents for DelDOT's review and approval processes. The data extracted in preparation for the event included all TIS project data from January 1, 2023, to present, consisting of a total of 111 projects. For the purposes of examining the data, 24 projects were selected to evaluate that were deemed "complete" projects – meaning that data included the beginning phase of a TIS/TOA Scoping Meeting Request and concluded with the phase of a Final TIS Review Letter. The phases of work that transpire within the TIS process included metrics on resubmissions and iterations, also known as rework, that occurs between DelDOT and the development community.

Initial data for TIS showed

- On average between January 2023 and present, the TIS Section processed approximately 30 projects per year.
- Of the 24 projects analyzed, the total average time for project completion was 13 months, with projects in the hands of DelDOT for 7 months and in the hands of developers for 6 months on average. Five months is currently the DelDOT metric for process timeliness for TIS and it has been met 100 percent of the time for the last two years without exception. The difference between DelDOT's average of 7 months per project, and their internal deadline of 5 months per project, is that most projects are returned to developers to modify their information, which allows a new 5 month resubmission cycle to begin.
- Three additional completed projects were evaluated using what is known as an "Option B" model offered by DelDOT, which consists of DelDOT and their consultants handling all traffic engineering requirements internally, and the review being funded by the developer. The total average time for project completion under "Option B" was 10 months, or 3 months less when compared to the standard "Option A" process (illustrated in the table below). Though the outcomes are promising, this is a small sample size and "Option B" projects need further evaluation to determine if these efficiencies can be maintained. The primary causal factor for the efficiencies found under "Option B" based on the data examined is that all instances of rework or resubmissions were eliminated from the process under this option.
- Of the completed projects evaluated, rework [resubmissions] was a significant factor in the process, occurring in 21 out of 24 projects, or 88% of the time.

- 49 instances of resubmission cycles (rework) were found within the 21 projects, with primary instances of rework occurring in the following areas:
  - Traffic count rework (resubmission cycles) occurred in 12 out of 24 projects or 50% of the time.
  - Preliminary TIS report rework (resubmission cycles) occurred in 19 out of 24 projects or 79% of the time.
  - Both traffic count rework and preliminary TIS report rework occurred in 10 out of 24 projects or 42% of the time.

DelDOT TIS – "Option A" Versus "Option B" Comparison

	Total Days in Review TIS	Review - DelDOT (Scoping Mtg - Under Option B - DelDOT Solicits Bids and Applicant Reviews)	Review - Developer (Scoping Mtg)	Review - Developer (Draft Letter)	Review - DelDOT (Draft Letter)	Total Rework Instances
Option A Averages (*24 out of 111 projects)	399	26	29	45	18	49.0
Option B Averages (*3 out of 7 projects)	304	35	22	24	11	0.0
Difference	95	-9	7	20	7	49.0
Outcomes	**-3 mos. overall time savings (13 mos. vs. 10 mos.)**	+2 additional weeks	-1.5 weeks time savings	-3 weeks time savings	-1.5 weeks time savings	**+100% improvement**

Given the insights of the team on the data presented, it was apparent that rework is the primary source of non-value added activity within the TIS process. To further quantify the total costs of rework, the GEAR Program Management Team calculated the total hours of activity spent on rework cycles across these projects. The following measures attempt to quantify the cost and overall dollar opportunity in savings that could be achieved by reducing rework cycles:

- The 12 projects in which traffic count rework occurred totaled 51 weeks of additional activity, or 4.25 weeks on average per project. The total cost of this activity is estimated at $143,000.00 for DelDOT.
- The 19 projects in which preliminary TIS report rework occurred totaled 101 weeks of additional activity, or 5.3 weeks on average per project. The total cost of this activity is estimated at $284,000 for DelDOT.
- The combined effect on projects where both traffic rework and preliminary TIS report rework occur totaled 96 weeks of additional activity, or 9.5 weeks on average. The combined cost per project is estimated at $427,000 annually for DelDOT.

- Given that these calculations reflect a subset of the total DelDOT TIS Section projects (24 out of 111), the estimated total cost to the State of Delaware when extrapolated and annualized is $680,000 with all rework factored in.

As seen in the baseline measures developed in the value stream map (found in Appendix A) for TIS the overall process takes an average of 399 calendar days per project (~7 months with DelDOT and ~6 months with developers, or 13 months overall). However, in the refined model through a 33% reduction in rework and 3 fewer DelDOT processing days it will be possible to measure future improvements and quantify time and cost savings outcomes for the program. While 13 months is longer than 8-month figure that the 2019 KPMG Analysis of Permit Competitiveness report referenced remains an opportunity to eliminate rework in the process to further reduce the timeline. The team also analyzed the amount of time it takes on average to complete a single project, and it was calculated at 39 business days of work. With, on average, approximately 2-3 projects being evaluated at a time per team member, it appears that the staff operates near full capacity in the current model through the use of a combination of internal staff and consultants. In addition, once rework is eliminated, it is worth determining how TIS internal deadlines can be shortened further from the current five month standard.

Ongoing program metrics for the TIS process should focus on rework (resubmission) reduction, maximizing value-added activities, eliminating non-value-added steps, and increasing customer satisfaction/engagement. Regular feedback from developers and the traveling public should inform continuous improvement efforts and their input can be used in piloting new ideas to determine if the program is satisfactorily meeting customer needs.

Insights From the Customer Journey

As part of the SEB process the team reviewed the customer journey (found in Appendix A) from the perspective of three fictional personas that represented customers who would typically be involved in the TIS process. The team analyzed pain points and goals from the perspective of the personas:

1. **The Dedicated Developer**: A seasoned real estate developer in Delaware with extensive experience navigating the TIS process. This persona sought streamlined coordination, reduced redundancies, and greater scheduling flexibility to support efficient project delivery. They also had bold ideas about TIS reform that were directly presented to DelDOT leadership.

2. **The Mission-Driven Newcomer**: A newcomer to the development landscape, with prior experience in Pennsylvania, and a passion for community impact through an affordable housing project. This persona sought clear guidance and supportive navigation through complex regulatory processes that she was unfamiliar with.

3. **The One-Off Business Owner**: A small business owner in Wyoming, DE, pursuing a one-time development project to expand their small business on an adjoining parcel. This persona valued simplicity, clear expectations, and minimal bureaucratic hurdles to bring her vision to life.

The result of the customer journey review generated pain points that were later selected and prioritized for improvement, which included the following:

Persona Type	Goals	Barriers and Pain Points

Dedicated Developer	• Faster process (sometimes) • Limit study scope • Defer to traffic engineer • Committed to the process	• Review and submission iterations • Negotiating improvements with DelDOT • Speed of reviews • Over-analysis by engineers
Mission-Driven Newcomer (Affordable Housing)	• Immediate approval • Limit project costs and maximize profit • Establish flexible and innovative process/procedure to handle her project • Avoid back and forth negotiations	• Does not know the right questions to ask ("just tell me what to do") • Unrealistic expectations of project timelines • Costs • Does not know what to submit
One-Off Business Owner	• Begin construction as soon as possible • Stay closely involved in all details of the process	• Unclear expectations • Resource limitations • Unaware of process requirements or parties to contact

The pain points noted by the personas were also reinforced through prior conversations that the GEAR Program Management Team held with various private sector business leaders who were actively engaged in land use development initiatives in Delaware. Overall, between the value stream analysis with the associated process metrics and associated risks, and the customer journey analysis, that revealed additional pain points, these two exercises led to the various objectives detailed at the outset of this report that will begin to improve the efficiency and effectiveness of the TIS program.

Leadership Support

The single most important variable to implementing change is clear and visible sponsorship from leadership. In the case of the TIS program, there is clear and aligned sponsorship from the Governor and Secretary of Transportation. To sustain momentum, leadership is asked to:

- ❖ Reinforce alignment with Governor's priorities on affordable housing and business permitting efficiency

- Champion transformation of TIS as well as additional permitting processes by sponsoring subsequent SEBs
- Prioritize engagement from existing resources toward the implementation of strategic initiatives

Continued executive support will be essential to build on these efforts and achieve long-term transformation.

Next Steps and Conclusions

The team will finalize and implement prototypes, with GEAR conducting weekly check ins for the first 30 days following the event to evaluate near term results, as well as establish ongoing evaluation mechanisms and sustainability plans, to allow for change management. Strategic leadership messaging and cross-agency alignment, especially on priorities like affordable housing—will continue to be essential.

One key opportunity by operating within a Lean framework is providing organizations with the ability to repurpose time, energy, and dollars from non-value-added activity to value-added activity. While many organizations are inclined to ask for additional resources to implement strategic recommendations, the GEAR Program Management Team recommends implementing the time and cost savings objectives through rework reduction outlined in this document, then reassessing internal capacity among the programs, before considering additional resources to pursue the next set of objectives.

This SEB report shall be provided to the Governor's Office, DelDOT leadership, and serve as a public document to inform further evaluations of TIS and provide context for other interested parties surrounding land use permitting reform.

In addition, there is an ongoing request of the Governor's office to continue reviewing and streamlining permitting processes through future SEB events (see image below) between GEAR and the relevant permitting bodies in Delaware. Support at the cabinet level down to the organizational level, where subject matter experts in permitting processes execute their objectives, are vital to engage in future SEB events. Without the engagement of those who do the work daily, or leadership expressing the business reasons for change, these efforts will move slowly and become subject to fragmentation over time.

Overall, within a three-day Lean "blitz" framework, preceded by three weeks of planning prior to the event, this SEB team achieved objectives aligned with their project charter and will exceed expectations if the goals and deliverables continue to be carried out in a timely manner. As a framework for delivering efficiencies in a government setting, SEBs allow for a more responsive, value-driven process delivered by the State of Delaware.

State of Delaware Permitting Process Improvement Schedule

2024/2025	June 2025	August 2025	September 2025	November 2025	January 2026
• **DelDOT Regulatory Pilot** • **DNREC Subaqueous Pilot with GEAR**	• **OMB Preliminary Land Use Service SEB**	• **DelDOT Traffic Impact Study SEB**	• **DelDOT Record and Entrance Plan SEB**	• **Housing Taskforce RPE**	• **County/Local Land Use SEB1**
Outcomes: DelDOT regulatory alignment DNREC subaqueous process reduction -70%	Outcomes: Process time reduction for applications of -20% Overall process time reduction of 5 business days saving $162,500 annually	Outcomes: Consolidated two internal process steps into one step that is projected to reduce rework by -33% saving $112,500 annually Overall process time reduction of 3 business days			

SEB = Service Efficiency Blitz
RPE = Rapid Planning Event

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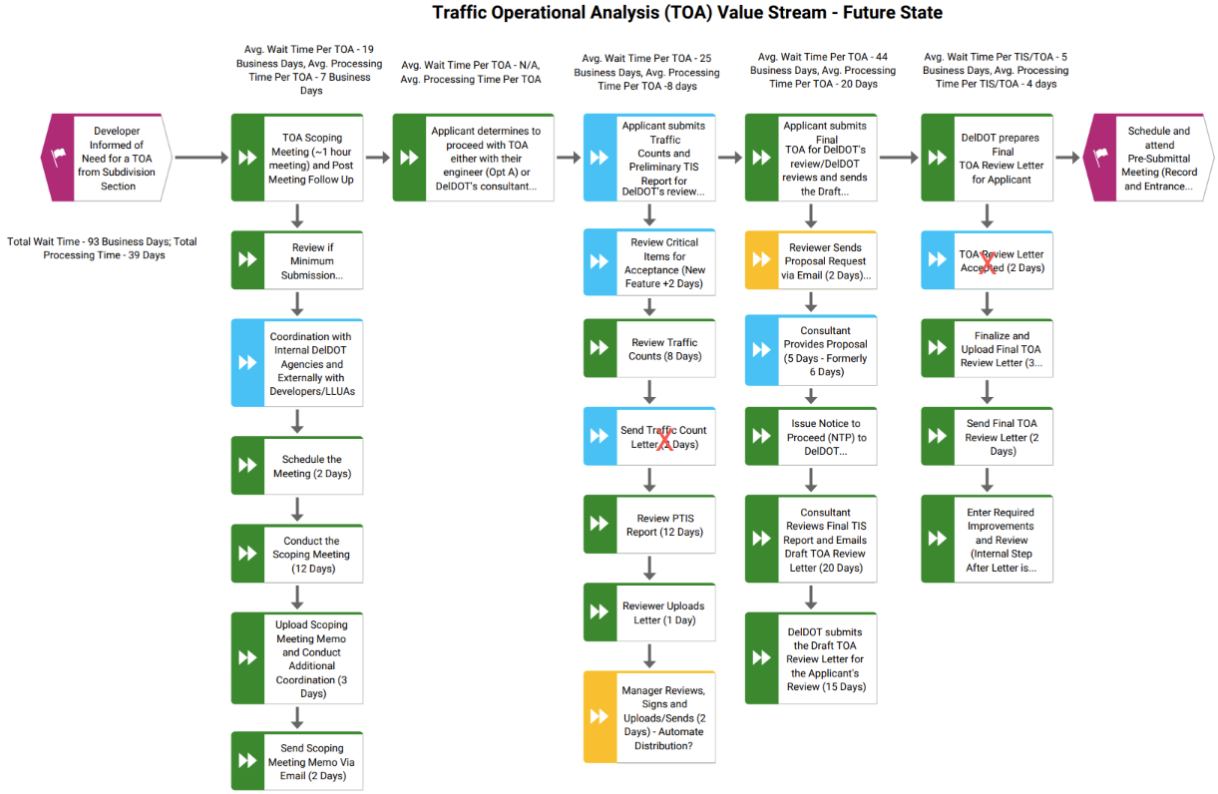
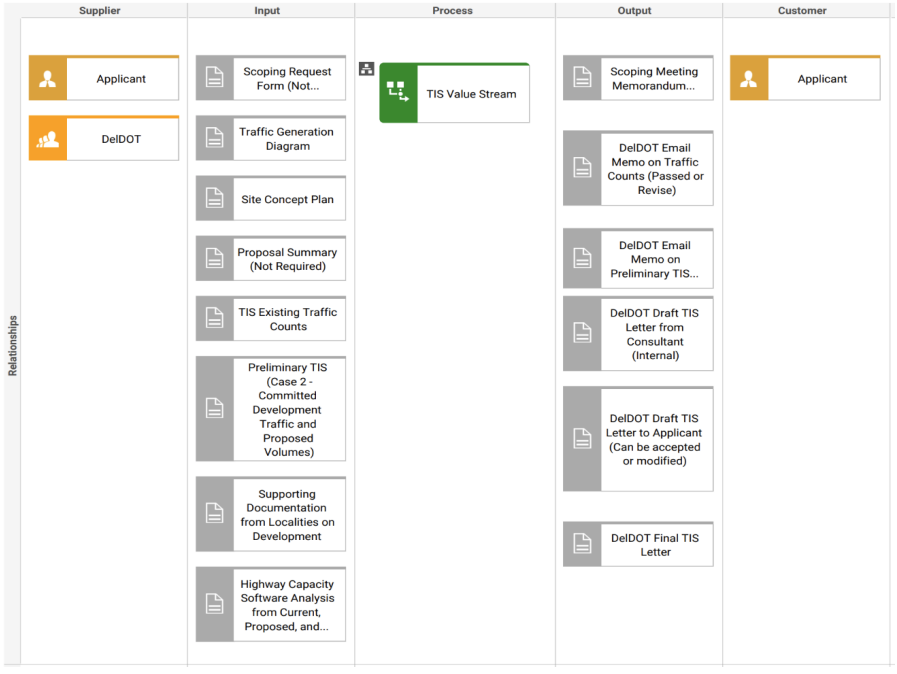
Appendix A – Process Maps from the SEB Event



TIS SIPOC Diagram



TIS Customer Journey Map