



III. PLAN PREPARATION

This Chapter of the DelDOT Traffic Design Manual discusses the general steps required for preparing plans for any traffic design project. It includes a discussion of the required contract documents and outlines the process for developing preliminary, semi-final, and final design plans. Additional details regarding specific design elements are presented in Chapter IV (Traffic Signals) and Chapter V (ITS Devices).

A. Required Contract Documents

Traffic Design projects may be prepared in one of five formats:

1. Capital Project
2. Traffic-Only Signal Project (individual)
3. Traffic-Only System Improvement Project
4. ITS-Only Project (individual)
5. Developer / Subdivision Project

Capital Projects include the insertion of traffic devices into highway design, planning projects, and/or bridge projects prepared by DelDOT or consultants for formal advertisement. These types of projects, which require formal advertisement and construction of the entire project, must be coordinated closely with DelDOT's Project Manager and the Design Team.

Traffic-Only Signal Projects typically utilize the services of Statewide On-Call Contractors who have already been selected on a competitive bid basis and are readily available to begin work on new projects. Alternately, some small work tasks with low cost for installation or minor maintenance of material (small phasing change or head replacement) may instead be completed by Traffic Signal Maintenance Group or other DelDOT in-house forces.

Traffic-Only System Improvement Projects may require minor roadway geometric improvements together with the installation of new devices or modifications to existing traffic control equipment. Traffic-Only System Improvement Projects may be developed for a specific corridor or as part of a statewide implementation plan.

ITS-Only Projects typically utilize the services of Statewide On-Call Contractors or Integration Vendors who have already been selected on a competitive bid basis and are readily available to begin work on new projects. Alternatively, some small work tasks with low cost for installation or minor maintenance of material (device swaps, equipment upgrades) may instead be completed by Traffic Signal Maintenance Group or other DelDOT in-house forces.



Developer / Subdivision Projects represent traffic control signal designs that are prepared by the developer or consultant representative, as part of the permit approval plan set. The signal documents are reviewed by DeIDOT's Traffic Systems Design Group and the Sub-Division Section prior to "Concurrence for Installation" by the Chief of Traffic Engineering. The Developer is responsible for providing or obtaining the necessary right-of-way easements to construct the signal. Additionally, the Developer is responsible for designing all geometric elements of the signal design plans, including islands and curb ramps, utility relocation, and other associated traffic control devices (signs and pavement markings). Under unique situations, the DeIDOT Traffic Systems Design Group may be called upon to complete the signal design, if this request is granted and agreed upon (special priority will not be given). The Developer will be responsible for providing DeIDOT with digital files for the preparation of design plans. If plans do not meet DeIDOT CADD Standards, additional time may be required as part of the design process. Additionally, it is the Developer's responsibility to continue coordination with DeIDOT Traffic, informing of any project schedule changes, and design changes, and providing updated design files, as needed.

Table III-1 identifies the PS&E requirements for each of the contract types from the previous page:

Table III-1 Requirements for Plans, Specifications, and Engineer's Estimate					
Contract Documents Required	Capital Projects	Traffic-Only Signal Projects	Traffic-Only System Improvement Projects	ITS-Only Projects	Developer / Subdivision Projects
Title Sheet	Yes ⁽⁶⁾	No	Yes	No ⁽⁵⁾	Yes
Signal Plan / ITS Device Plan ⁽¹⁾	Yes	Yes	Yes	Yes	Yes
Signing, Striping, and Conduit (SSC) Plan ^{(1) (2)}	Yes	No ⁽⁴⁾	No ⁽⁴⁾	No	Yes
Specifications	Yes	No ⁽³⁾	No ⁽³⁾	No ⁽³⁾	Yes
Traffic Statement / Cost Estimate	Yes	Yes	Yes	Yes	Yes

NOTES:

⁽¹⁾ Signing and marking are typically shown on the signal plan, but may be detailed



separately.

(2) All Traffic Control devices should be integrated in to the State's ITMS Program.

Communication plans may be required.

(3) Specifications will need to be written for non-standard items.

(4) While not required, a separate SSC plan may be needed for clarity.

(5) May be needed based on the magnitude of the project.

(6) An overall title sheet is required for the Capital Project. Typically, a separate title sheet for the traffic elements is not required.

1. Title Sheet

A title sheet may be required for some traffic control projects that are part of a proposed system-wide upgrade or as part of a DelDOT Traffic project that is formally advertised. The title sheet shall conform to the latest DelDOT CADD Standards found within the "Design Resource Center" CADD section on the Delaware Department of Transportation website. Typical title sheet elements will identify the project location and limits of work on a location map. The DelDOT contract number and/or Federal-aid contract numbers (as applicable) and project location and project name shall be shown on the top center of the title sheet. The title sheet shall also include a signature block and PE Seal for the responsible lead Designer or Consultant with a signature block for "Concurrence of Installation" for the Chief of Traffic Engineering or Designated Design Manager. If a title sheet is used, an additional signature block may not be required on subsequent individual sheets (unless requested by the Traffic Systems Design Manager). A sample traffic title sheet is included in this Manual in **Appendix D**.

2. Plan Sheet

The major objective of the design plan sheet is to graphically describe how the device is to be constructed and operated. This includes showing the existing and proposed geometrics, the location of all equipment and other pertinent information.

When preparing a traffic control plan, the north arrow should be in the upper right corner of the plan and should generally be oriented above the horizontal axis. The major route should typically be oriented from left to right. However, for Capital and Developer Projects, the orientation should follow the roadway plan set conventions to maintain consistency within the plan set. The Designer should confirm the mainline and side street are the official 911 street names through the Statewide Administrator and/or listed websites in **Appendix P**. Standard signal borders shall be used for signal plans. Depending on signature requirements,



a modified signal or standard construction border may be used for other traffic control devices. The Designer should check with the Systems Design Manager on border requirements during the early stages of plan development.

Signal design border shall include:

- Standard legend
- Signal phasing
- Signal head diagram
- General signal notes
- Project title
- Location
- Permit number
- Contract number
- County location
- Scale
- Addendum/revision block
- Signature blocks
- Other traffic control device design borders shall include:
 - Required design specific elements
 - General project notes
 - Project title
 - Location
 - Contract number
 - County location
 - Scale
 - Addendum/revision block
 - Signature block and permit number as needed



Generally, plan sheet layouts should be as follows: Project-specific and MOT notes should be shown in the top left corner of the plan. The conduit run schedule should be placed in the lower left corner. Notes pertaining to the conduit run schedule should be placed below the schedule. Unless space limitations require an exception, all existing and proposed site-specific signs should be shown in the lower right portion of the plan. Project-specific details and other schedules should be shown where space allows or on a separate sheet. Plan sheet clutter should be avoided to provide a clear and concise design. Fonts, symbols, title blocks, and borders should be in accordance with DeIDOT's latest CADD standards. These standards can be found within the "Design Resource Center" CADD section on the Delaware Department of Transportation website.

For minor traffic control modifications, such as head changes, phase changes, or minor pedestrian modifications, a redline plan may be developed upon approval by the System Design Manager. The plan should represent the latest as-built condition and contain any previous revision(s), with the standard revision signature block. The revision block should also include a brief description of the proposed revision along with the date and initials of the Designer. Larger-scale modifications, or where an adequate as-built is not available the development of a new plan sheet shall be required.

Labeling of equipment should follow the following uniformity: mainline vehicular signal heads are numbered first followed by side street signal heads. Signal heads should be numbered by phase from left to right facing each approach. If there are both near-side and far-side signal heads, near-side signal heads are numbered first. Pedestrian signal heads will be numbered next using the same numbering sequence as described above. For retrofits or signal modifications, vehicular and pedestrian indications shall be numbered in accordance with the established sequence of operation chart.

Poles, mast arms, and signs should be numbered with mainline structures being first. If the mainline runs in a north-south direction, structures facing northbound traffic are numbered first followed by southbound. If the mainline runs east-west, eastbound traffic will be numbered first followed by westbound. Poles, mast arms, and signs should be numbered from left to right facing each approach. Side street structures are then numbered using the same northbound, and eastbound rules.

Conduit numbering should follow a linear sequence and begin with CO#1 at the utility service point to meter utilizing CO#1, 1A, 1B... and continuing until reaching the controller cabinet or device tie-in. From the cabinet, the numbering should continue to the lead-in junction well beginning with CO#2, then branching in linear sequences as much as possible.



Sample title sheets (**Appendix D**) and plan sheets (**Appendix E**), including ITS device sheets (**Appendix T** through **Appendix Y**), are provided in the appendices of this Manual.

3. Specifications

Standard Specifications, Special Provisions, and Standard Construction Details for traffic projects have generally been established and standardized by DelDOT and can be found in DelDOT's Design Resource Center. Unless a unique or non-standard item is required, there should be no need to provide any additional specifications (i.e., special provisions). However, on a case-by-case basis, there may be a need to include an additional drawing or details for site-specific geometric and/or construction requirements. It should be noted, however, that non-standard specification usage should generally be avoided, to the extent possible.

4. Traffic Statement (Cost Estimate)

The development of a Traffic Statement, (Traffic established cost estimate), is required for all traffic design projects.

Traffic construction items, supplied, provided, and installed for all traffic control-related items, are broken down into three different categories and vary by project type:

- Project Contractor Items (Capital and Developer/Subdivision projects only)
- Traffic Contractor Items (all)
- Traffic Supply Items (all)

Project Contractor Items (Capital and Developer/Subdivision Projects only)

DelDOT has determined that based on the contracting method, construction schedule, project magnitude, current Traffic Construction workload, and coordination issues, some or all traffic construction items may become the General Contractor's responsibility for Capital and Developer/Subdivision Projects. It shall be determined what the Project Contractor's responsibilities are related to traffic construction items to be supplied, provided, and installed during project initiation. Project Contractor items' unit cost will be determined by the project designer and be based on historical item prices for similar projects for Engineer estimate purposes. These items will become General Contractor bid items for Capital and Developer/Subdivision Projects.

Traffic Contractor Items (All)

These items cover provide, supply, and installation of items by the Traffic Section's Statewide Signal Contractor, as well as the installation of items provided by DelDOT Traffic Signal



Construction that are installed by Statewide Signal Contractor or by DelDOT's Traffic Signal Construction and/or Maintenance Groups. Under unique situations involving Developer Projects, underground installation or other off-site improvements may become the Traffic Section Statewide contractor's responsibilities. This usually is requested by the Developer and shall be defined early in the design process to allow for adequate construction coordination and timing.

Traffic Supply Items (All)

These items account for all items supplied by the Traffic Section to the Statewide Signal Contractor or Project Contractor for installation. These also cover the cost of integration of all equipment into DelDOT's Integrated Transportation Management System (ITMS).

The Traffic Statement shall show the unit and total cost of each item separately, as well as a combined total project cost. The Traffic Statement shall use item numbers and unit costs provided by Traffic for all Traffic Contractor and Supply items. It may be required that a unique bid item not generally covered under the Traffic Open-End contract is needed. It is encouraged to find a comparable bid item to facilitate payment. If one cannot be established, the designer shall work with the Signal Construction Manager to obtain a negotiated price "NIB" with DelDOT On-Call signal contractor(s). Additionally, if non-standard equipment is proposed, it should be assumed a 15% markup may be incurred by the Department. Non-standard items and equipment should only be used upon approval of the Traffic System Design Manager or Chief of Traffic Engineering.

B. Preparation of Design Plans

One of the most fundamental tasks in the traffic design process is the preparation of design plans. Traffic design plans provide the blueprint for all traffic elements installed in the field, and the information provided on the plans must be clear, thorough, and accurate. The preparation of design plans consists of the following activities:

- Collecting preliminary data. This involves researching the existing plan records and gathering items related to the study location, including as-built plans, right-of-way plats, deed research, highway design plans, utility design plans, historical soil borings, timesheets for existing signals, and confirmation of official street names.
- Developing base plans and performing a field survey verification, including verification of existing geometrics, signal timings, above and underground utilities, and other roadway features.
- Preparing preliminary, semifinal, and final design plans and related documents, as necessary, for approval.



- Obtaining concurrence signatures of the final design plans to allow the design to move to the construction phase, activation, and ultimately the operational hand-off of the traffic device.

This chapter of the DelDOT Traffic Design Manual includes a discussion of each of the activities required during the design plan preparation process.

1. Collect Preliminary Data

The first step involved in the preparation of design plans is to collect available preliminary data for the study location. The Traffic Designer should begin by collecting all pertinent data that would help in the development of the base plan. This includes researching DelDOT records for as-built traffic plans, highway design plans, right-of-way plats, official street names, and utility plans. Gathering these items will help provide the Designer a history of the location and assist in the development of base plans. Some of this information may have already been gathered if the project is part of a Capital Project or Developer/Subdivision Project. It is the responsibility of the Traffic Designer to obtain and review these documents prior to any plan development.

For projects initiated by the Traffic Studies or DelDOT Traffic Design Resource/HSIP Group or as part of a Traffic Impact Study agreement with a Developer, additional information related to the study location may also be available. The Designer should coordinate with the applicable Section, as appropriate, to obtain additional background information on the study intersection, such as traffic count data, existing signal timings (timesheet), and recommendations on the proposed lane arrangements and proposed signal operations. This information is often available in the Traffic Signal Study. Chapter IV-A of this Manual provides additional information regarding the data contained in a Traffic Signal Study.

2. Prepare Base Plans

After the Designer has collected all preliminary data, the next step in the process is the development of base plans. A base plan should contain all existing roadway geometrics, as well as the locations of any traffic control devices, signs, markings, lighting, and utilities. An itemized list of the typical base plan features is shown in **Table III-2**.



Table III-2 Typical Traffic Base Plan Features	
Roadway Geometrics	
<ul style="list-style-type: none"> • Alignment of intersecting streets • Widths and number of lanes • Physical features (curb and gutter, sidewalks, medians, shoulders, drainage structures, guardrail) • Street lighting • Corner radii • Utility locations including overhead height and underground • Roadway entrances within 150 feet of the intersection • Right-of-way • Clear Zone/Lateral Offset • Any existing sight-distance obstructions • Any railroads or emergency entrances in the vicinity • Building lines, fences, trees, shrubs 	
Traffic Control Features	
<ul style="list-style-type: none"> • Lane usage and scaled dimensions • Parking restrictions • Location and message of existing signs • Locations and operation of existing traffic signal devices • Location of additional traffic control devices • Existing speed limits • Existing pavement markings • One-way streets • Bus stops and loading zones • Turn restrictions 	

On a case-by-case basis, a topographical survey may be needed to define geometric improvements such as intersection channelization. When required, a planimetric plan with spot elevations shall be provided as the basis of the base plan.

The Designer shall follow DeDOT’s CADD Standards when preparing the base plan sheet. All standard items required in the development of the base plan, including the title block, cell library, seed files, fonts, line styles, and borders, may be obtained from the “Design Resource Center” CADD section on the Delaware Department of Transportation website. All base plans shall be prepared to utilize the current version of MicroStation at a scale of 1 inch = 30 feet. The designer may request an alternate scale drawing based on design requirements upon



approval by the Traffic System Design Engineer. If details are provided with the base plans, the details should be drawn at a defined engineering scale.

3. Perform Field Survey

Before proceeding too far along in the design process, it is important for the Designer to verify that the items contained on the base plan match existing field conditions. This is typically accomplished by performing a field survey. A field survey generally includes either a tape-and-wheel survey at an intersection or field verification of surveyed data. The limits of the survey are usually determined by the device type. For projects involving new or modified signals, the limits on each approach should be chosen to include the length of all existing and proposed turn lanes, all potential advance signing locations, and all possible locations for the placement of detectors. During this survey, the following information should be collected or verified:

- Number of lanes and lane widths for each approach
- Intersection skew
- Medians and type
- Roadway curvature
- Approach grades
- Pavement markings
- Signing
- Number and sizes of conduit and cables/wires for existing traffic signals
- Signal Timing and Phasing
- Lighting
- Sidewalks and curb ramps
- Guardrail
- Driveways and entrances
- Utilities, including proposed electrical feed
- Parking
- Buildings
- Trees and vegetation
- MISS UTILITY (Underground)
- Bus stops

Preliminary device locations and potential power sources should also be identified during the field survey. Overhead utility lines should be measured and documented with photographs. By measuring utility lines at the proposed device location in the field, the Designer can ensure that the locations do not conflict with overhead utility lines and other physical features. Documentation of these measurements can also help resolve future utility disputes, should



the height or location of utility lines change prior to device installation. The Designer should tabulate the locations and clearances of all overhead utilities on the plans where a potential conflict could occur. For locations with existing traffic control signals, the Designer should check that the signal timing and phasing described on the timesheet match both the plan sheet and the actual operations in the field. This requires that the cabinet be opened during the field survey, which must be performed or supervised by DeIDOT Traffic staff.

4. Preliminary Design Plans

a. Development

Once the initial field survey is completed, the next step for the Designer is to prepare preliminary design plans. The preliminary design plans should identify the following design elements:

- Proposed device location
- Cabinet location
- Conduit and junction well location and schedule
- Power feed (including pole number)
- Existing and proposed signing and marking improvements
- Communication integration
- Utility clearances
- Clear Zone/Lateral Offset
- Right-of-way
- Official street names found through the Statewide Administrator and/or websites listed in **Appendix P**.

For signal projects, the following additional design elements should also be included in the preliminary design plans:

- Pole type and configuration
- Signal head placement and display
- Signal NEMA Phasing
- Detector configuration
- Signal operation requirements
- Pedestrian facilities

It should be noted that this list is not meant to be exhaustive. Depending on the specific needs of the project, additional design elements may be included in the preliminary design plans, and any unique design elements should be identified at this stage of the



process. Any design constraints or special project requirements should also be denoted in the preliminary design plan to help in the plan review process. Prior to or in conjunction with project process for Traffic lead projects, the designer should look to submit plans for environmental approval and stormwater certification along with a request for soil borings, if needed. For additional detail regarding preliminary design plan elements, refer to Chapter IV-C of this Manual.

b. Review

As part of Traffic lead projects, once the proposed layout for the design elements listed in the previous section has been established, the preliminary design plan review can take place. It is recommended the Designer include as many final design elements as possible under the preliminary design plan submission. The more elements are included, the more accurate the resulting initial traffic statement (engineer's estimate). The preliminary design plan review allows members of the Project Process Group to provide input on the design and ensure quality control.

During the preliminary project process review additional recommendation and/or approval of preliminary design elements will be given. Discussion with Traffic Safety should occur to confirm lane restriction hours per P.I. Number C-09 (Planned Lane Restriction and Road Closure Policy), needed standard or special MOT cases typical applications, TMP determination, and any pedestrian or unique MOT consideration. Additionally, a discussion with the TMC should occur to confirm operational and communication requirements. At this time, the design will move forward to the appropriate stage of submission.

If the proposed preliminary design is part of a Capital Project or Developer/Subdivision Project, it is the assigned Traffic Systems Design representative's responsibility to verify that the plans meet the preliminary plan design requirements as outlined above. During the preliminary plan review, additional recommendations and/or approval of preliminary design elements should be given, at which time the design will move forward to the appropriate stage as outlined by the Project Manager. In certain cases, a review of the preliminary plans may not be needed at this stage and only require coordination with representatives from the TMC and Communication Sections.

Some Traffic lead projects that are relatively small in scale with minimal impacts may forgo the preliminary plan submission upon approval by DeIDOT's Traffic Systems Design Manager.



5. Semi-Final Design Plans

For Capital Projects and Developer/Subdivision Projects, the traffic design should follow the plan submission schedule outlined by the Project Manager. In many cases, this requires a semi-final plan submission. Traffic Section Projects generally skip the preliminary phase and proceed to the preparation of final plans following the semi-final plan review.

a. Development

If semi-final design plans are required as part of a Traffic lead project, the Designer should address all comments received from the Project Process Group as part of the overall preliminary plan review before submitting semi-final design plans. If conflicting comments are received, the Designer should work with the representatives who provided comments to determine an appropriate path forward to resolve the discrepancy.

If the semi-final design is part of a Capital Project or Developer/Subdivision Project, the Designer should coordinate with the designated Traffic Systems Design representative to attend a meeting with the Project Process Group prior to semi-final plan submission providing adequate time to address any comments received. The Designer should have addressed all comments received during the preliminary phase. If conflicting comments were received from other support sections, discussions on an appropriate path forward to resolve the discrepancy should have been completed. The Designer should look to include as many final design elements as possible under the semi-final design stage. The more elements included, the more accurate the resulting initial traffic statement (engineer's estimate) will be.

b. Initial Traffic Statement (Cost Estimate)

Once the Designer has addressed all comments and identified the additional design elements to be included in the semi-final design plans, the next step in the process is to prepare the initial traffic statement (see Chapter III-A). The traffic statement identifies the funding method to be used for the project and includes the engineer's estimate of anticipated project costs. Quantity takeoff should be performed following current DelDOT specifications (see Chapter III-A). The Designer should verify that the correct Traffic Statement is being utilized to ensure that up-to-date unit cost and contingencies are applied. The Designer should also coordinate with the Traffic Systems Design representative to determine which items will be considered the contractor's responsibility and which will be the responsibility of DelDOT's Construction Group. This will affect the portion of the total cost for which DelDOT will be responsible.



c. Review

After the semi-final plans have been distributed, the Designer and DelDOT System Design representative shall again coordinate to discuss any project-specific issues that were not addressed or other project changes that may impact the design requirements. If an additional meeting with the Project Process Group is required, one will be scheduled. Following this meeting, additional recommendations may be provided or approval of the semi-final design will be given and the design will move to the final phase of design.

d. 90% Plan Submission

For some projects, the submission schedule developed by the Project Manager will require a “90%” submittal of plans for review, or there may be comments received during the semi-final plan review that necessitate a “90%” submittal. However, in most cases, the DelDOT Traffic Section prefers that the 90% plan submission should be avoided, if possible because it can disrupt the project schedule. In most cases, issues can be addressed during other submittals.

6. Final (PS&E) Design Plans

For Traffic Section Projects, the preparation of final design plans typically follows the preliminary design review. For Capital Projects and Developer/Subdivision Projects, the preparation of final design plans typically follows the semi-final design review. The steps required for preparing final design plans, often referred to as plans, specifications, and estimates (PS&E), are presented in this chapter.

a. Development

During the final design plan stage, the Designer should have addressed all comments received from the Project Process Group throughout the design process and finalized all remaining design elements. All conflicting comments received should have an appropriate path forward to resolve the discrepancy.

Once all comments have been addressed, the following remaining design elements should be finalized for inclusion in the final design plans:

- NEMA phasing (for signal projects)
- Detectors (for signal projects)
- Any required schedules (conduit run, mast arm, span, signing, etc.)
- Construction notes
- Draft Timesheet



Additional design elements that have been identified throughout the design process should also be included in the final design plans. Any design constraints or special project requirements should also be denoted in the final design plans to help in the construction process. For additional detail regarding final design plan elements, refer to Chapter IV-D of this Manual.

b. Final Traffic Statement (Cost Estimate)

Once the Designer has sufficiently addressed all comments and identified the additional final design elements to be included in the final design plans, the next step in the process is to prepare the final traffic statement. As discussed in Chapter III-B.5.b, the traffic statement identifies the funding method to be used for the project and includes the engineer's estimate of anticipated project costs. The final traffic statement should reflect all revisions made during the development of the Final Design plans and include costs for every design element shown in the Final Design plans. An example of a Final Traffic Statement is provided in **Appendix F**.

c. Obtain Signatures

Following completion of the final design plans and final cost estimate, it is necessary for the Designer to obtain signatures to get final approval of the plans. The following steps are required:

1. If the design plans are prepared by a Consultant (for a Developer/Subdivision Project, for example), the consultant should sign and seal the plans and turn them in to DelDOT's Traffic Section along with all supporting documentation including the draft timesheet for review. Following the review, the DelDOT Traffic Systems Design representative should consult with the Traffic Systems Design Manager on the concurrence of design and time sheet.
2. If the design plans are prepared in-house by DelDOT staff (for Traffic Section Projects and Capital Projects, for example), the Traffic Designer should provide the final plan and all supporting documents, including the draft timesheet to the Project Manager or Traffic Systems Design Manager. If acceptable, the Project Manager or Systems Design Manager signs and seals the plans.
3. Upon design concurrence, the draft time sheet should be.
submitted to the TMC for timesheet approval by the TMC Operations Manager.
4. In the final step, the plans and approved timesheet are sent to DelDOT's Chief of Traffic Engineering for the "Concurrence for Installation" approval signature. In



unique cases, primarily for Capital Projects, the traffic design plans may be signed for “Concurrence for Installation” by DelDOT’s Chief of Traffic Engineering while the timesheet is finalized. This is to allow for the signed version of the plan to be included in the PS&E bid package; however, it is the Designer’s responsibility to have all documents submitted and approved prior to PS&E.

d. Construction Handoff

Once the Designer obtains the “Concurrence for Installation” signature for the plan sheet(s), they are responsible for completing the construction handoff package. A formal construction hand-off package is required for all Traffic Section Projects. For other project types, the construction hand-off typically occurs after the award and prior to the preconstruction meeting. The hand-off package, and email distribution list are provided in **Appendix C**, and should contain the following items:

- Traffic Systems Design Handoff Form
- Copy of signed plan(s)
- Traffic Statement
- Self-Clearance Letter (Traffic-lead Federal only)
- Funding Source
- Signed Timesheet
- Area legislators to be coordinated with
- Intersection Planning Sheet for APS
- Environmental approval
- Work Hour Restriction Checklist
- Any special MOT requirements
- Any additional construction requirements (signing, marking, and/or lighting)
- Any special construction requirements
- Quotes or special items
- Any agreements
- Press Release
- Any Community Relations and Legislative Relations notification requirements

Once all required documents and coordination have been completed, the Designer shall submit all related documents to all applicable Traffic System Design Handoff designees and address correspondence to all recipients. For Traffic-only projects, an additional section should be added to the body of the email for Legislative Relations where the press release text is shown along with the area legislators that need to be notified of the pending effort.



Once the construction handoff document is received, DelDOT's Construction Manager will place the project on the statewide on-call contractor's construction schedule. If the project is part of a Capital Project or Developer/Subdivision Project, the Traffic Construction Manager will place it on the schedule and coordinate with the appropriate construction inspection staff on the proposed construction schedule. If required, the procurement of any lead time items shall begin. Once construction begins, if any design changes are required, the Traffic Construction Manager will coordinate with the Designer and/or Construction Inspector to verify that a sound construction alternative is chosen. During the construction process, if minor construction changes occur, DelDOT's Traffic Construction Manager will provide DelDOT's Traffic Systems Design Section with an as-built plan showing all plan adjustments or changes. Except on Capital Projects, the Traffic Systems Design Section will be responsible for revising the approved design plans to reflect all construction changes. Therefore, the Designer shall submit to the Traffic Systems Design representative all CADD files for file retention purposes.

Prior to completion of device construction, the Construction Manager should notify DelDOT's Community Relations office informing them of a pending new device activation and/or traffic operation change. Prior to the completion of work in which a signal operational change and/or new traffic pattern is to occur, a message board should be installed on all approaches prior to implementation. For new signal activation, a message board should be installed on all approaches seven (7) days prior to implementation and a minimum 72-hour flash operation shall occur prior to full signal activation. Message board locations will be determined by the Traffic Safety Officer based on field conditions and project needs. All boards should remain in place seven (7) days after activation. For new signal projects and projects involving major phase changes to a signal, representatives from the following DelDOT Sections should be present at the field meeting to activate the device: Design, Construction, Maintenance, and the TMC. A representative from DelDOT's Traffic Studies Section should also visit the site within 24 hours of activation to verify that all traffic control devices are in-place and functioning properly.

