



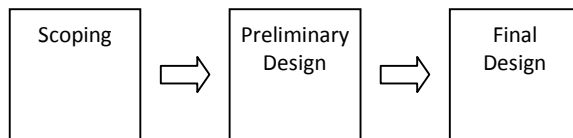
## A Tool Kit for Helping Businesses and Communities Survive Roadway Construction

Fact Sheet 1.1

# Introduction to NYSDOT Design Process



Before any construction work can begin on a highway or bridge project, the NYSDOT follows a three (3) phase project development process which includes the **SCOPING** phase – **PRELIMINARY DESIGN** phase - & **FINAL DESIGN** phase.



❖ During the **SCOPING** phase a problem is identified and a project is initiated.

- Project needs are identified.
- Project objectives are established.
- Preliminary alternatives are formulated.
- Federal Environmental (NEPA) and State Environmental (SEQR) classification is identified so that the proper environmental documentation can be prepared.
- The appropriate level of public involvement is determined, and Funding is made available for project design and construction.

The scoping tasks will be completed by an inter-disciplinary project team that includes representatives from the Program Management, Highway Design, Structures Design, Landscape & Environmental Services, Traffic & Safety, Right of Way, and Operations groups. Depending on the complexity of the project, the scoping phase will result in an Initial Project Proposal for “simple” projects or will require more in depth studies, Public Involvement Meetings and a Project Scoping Report for complex projects. The scoping phase will generally take 2 to 12 months to complete.

❖ During **PRELIMINARY DESIGN**, identified alternatives are studied and the alternative that best meets the projects objectives is identified.





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- Field surveys are completed and base mapping of the existing facilities are created.
- Highway boundaries are established.
- Overhead and underground utilities are identified.
- Traffic volume and accident data are obtained.
- The identified feasible alternatives are studied in detail.
- The Social, Environmental, and Economic impacts, both positive and negative are analyzed.
- Preliminary drawings and a refined construction cost estimate are created for each feasible alternative.
- A concept for maintaining and protecting vehicular, bicycle, and pedestrian traffic during project construction is formulated.
- If the project involves work in a Village or City, the landscape Environmental staff will work closely to with local officials and the business community to develop context sensitive solutions for bicycle and pedestrian accommodations and for enhancements to the roadside environment. In some cases these items can be paid for with project funding, in other cases a local betterment share will need to be created to include this work.
- A draft Design Report/ Design approval Document is written in the format required to satisfy Federal (NEPA) and State (SEQRA) environmental review laws.
- Public Meetings are held and input is garnered from local officials, review agencies and the general public.
- A build alternative is selected and a Final Design Report/Design Approval Document is published.
- Preliminary Right of way taking plans will be produced and effected properties will be identified.
- Approval to proceed to the Final Design Phase, to acquire Right of Way and to build the project is granted by the appropriate State or Federal Official.

The preliminary design tasks will be completed by department design staff, or by a consultant engineer with oversight from department staff. Public Input will be solicited during the preliminary design phase on all but the most simple of projects. It is very important that public input is received and analyzed during this phase so that build alternative chosen meets the needs of public. The Design Report could be as simple as an Initial Project Proposal/Final Design Report or could be as complex as an Environment Impact Statement/Record of Decision. The Preliminary Design Phase generally will take 4 to 24 months. On the most complex type of projects that require an Environmental Impact Statement, the process will take 4 to 7 years to complete





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- ❖ The **FINAL DESIGN** phase includes the Right of Way Acquisition process, work to obtain any permits or agreements needed for construction, and the production of the final construction plans, specifications and the items estimate that form the bid package that contractors use to formulate their bids. Once the bids for construction are opened, the construction contract is awarded to the contractor submitting the lowest bid.
  - Based on the build alternative selected, Right of Way Acquisition maps are created and any land needed for the project's construction is acquired.
  - The Maintenance and Protection of traffic scheme is developed into a final plan.
  - A construction phasing scheme is formulated.
  - The construction cost estimate is refined.
  - The preliminary project plans are developed into the Advanced Detail Plans.
  - The Advanced Detail Plans are used to coordinate utility relocations, maintenance and protection of traffic schemes and to obtain permits from oversight agencies.
  - The Advanced Detail Plans are circulated for review and comment.
  - Based on the comments received, the final construction plans are developed.
  - Any needed Special Specifications are written and approved for use.
  - Utility relocation and betterment plans and agreements are completed.
  - Maintenance jurisdiction for any new or reconstructed facilities is determined.
  - Plan Details are finalized.
  - The itemized construction estimate is completed.
  - The plans specifications and estimate are reviewed to assure accuracy and quality.
  - The plans, specifications and estimate are transferred to the NYSDOT Main Office for project pre-letting notification, plan distribution, bid submission and project letting. (bid opening)
  - The construction contract is awarded to the lowest bidder, and the construction phase begins.

The tasks in the final design phase will be completed by Department Staff or by an Engineering Consultant working under the direction of Department Staff. The Right of Way Acquisition and Final Plan development process are undertaken concurrently during the Final Design Phase. Depending on the size and complexity of the project, the final design phase typically lasts 12 to 36 months.

Further Reading:

To view the NYSDOT Project Development Manual visit:

[Manual:https://www.dot.ny.gov/divisions/engineering/design/dqab/pdm](https://www.dot.ny.gov/divisions/engineering/design/dqab/pdm)

