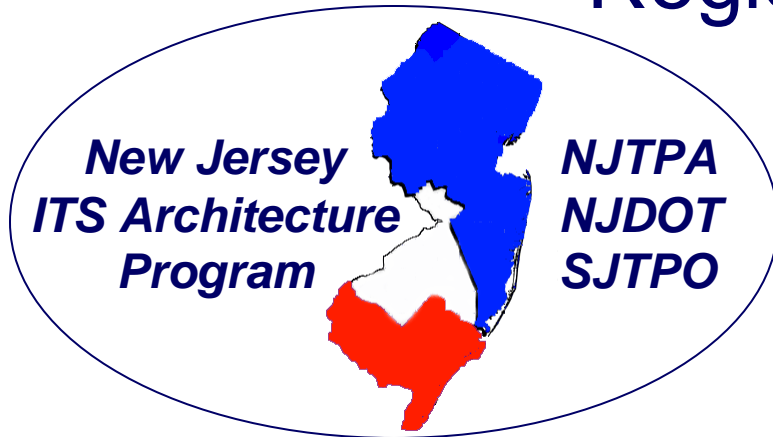


New Jersey ITS Architectures and Deployment Plans

Module 6 - Applying Your Regional Architecture



April 14 – Newark (NJTPA)
April 15 – Vineland (SJTPO)
April 23 – Trenton (NJDOT)

Module Topics

- Benefits of applying a regional ITS architecture
- Regional ITS architecture Application

Benefits of Applying a Regional ITS Architecture



- Identify integration opportunities
- Identify gaps in ITS services
- Efficiently structure implementations
- Leverage funding
- Identify standard interfaces

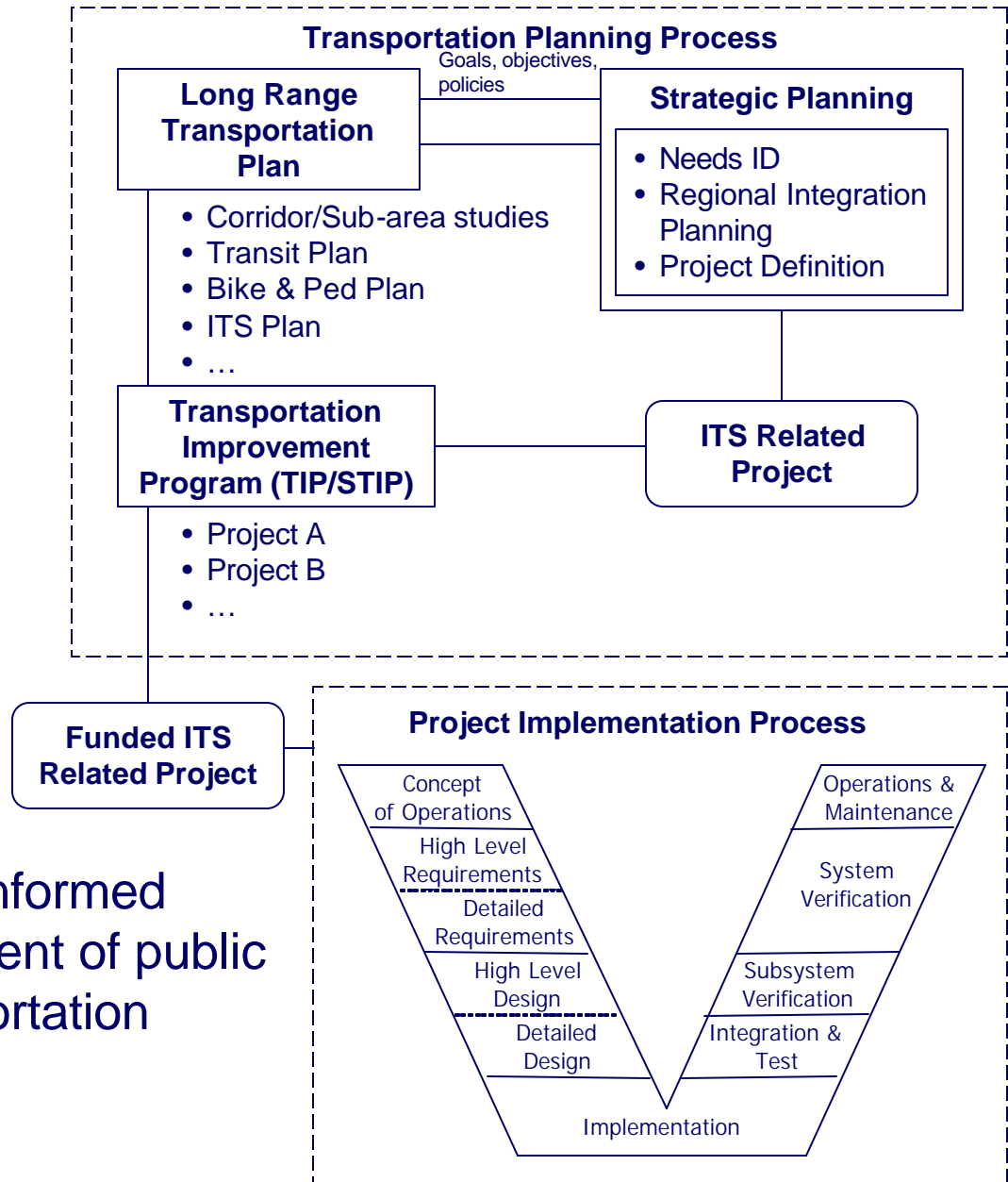
Regional ITS Architecture Application



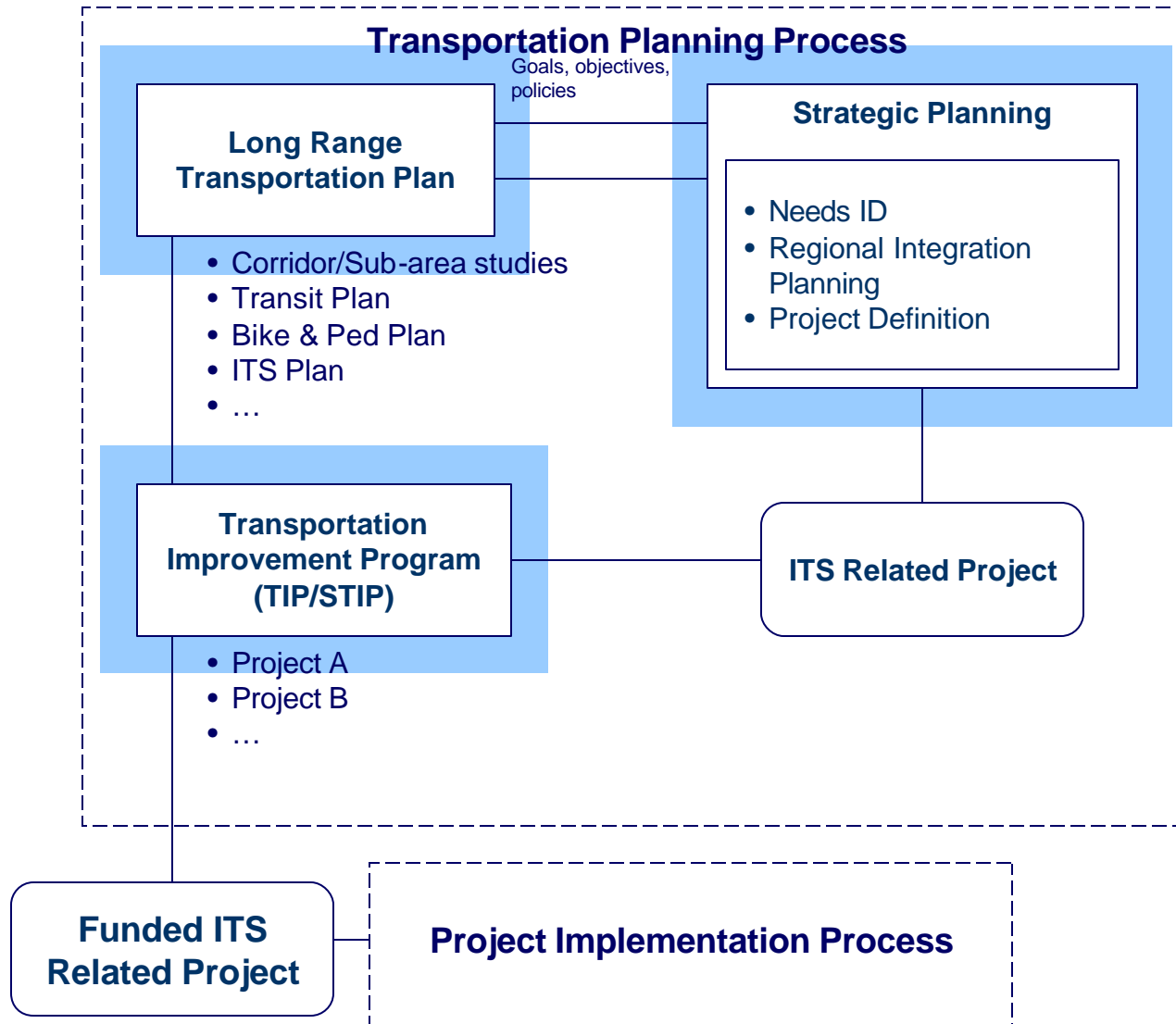
- Transportation Planning
- ITS Project Implementation

Generic Transportation Planning and Project Implementation Process

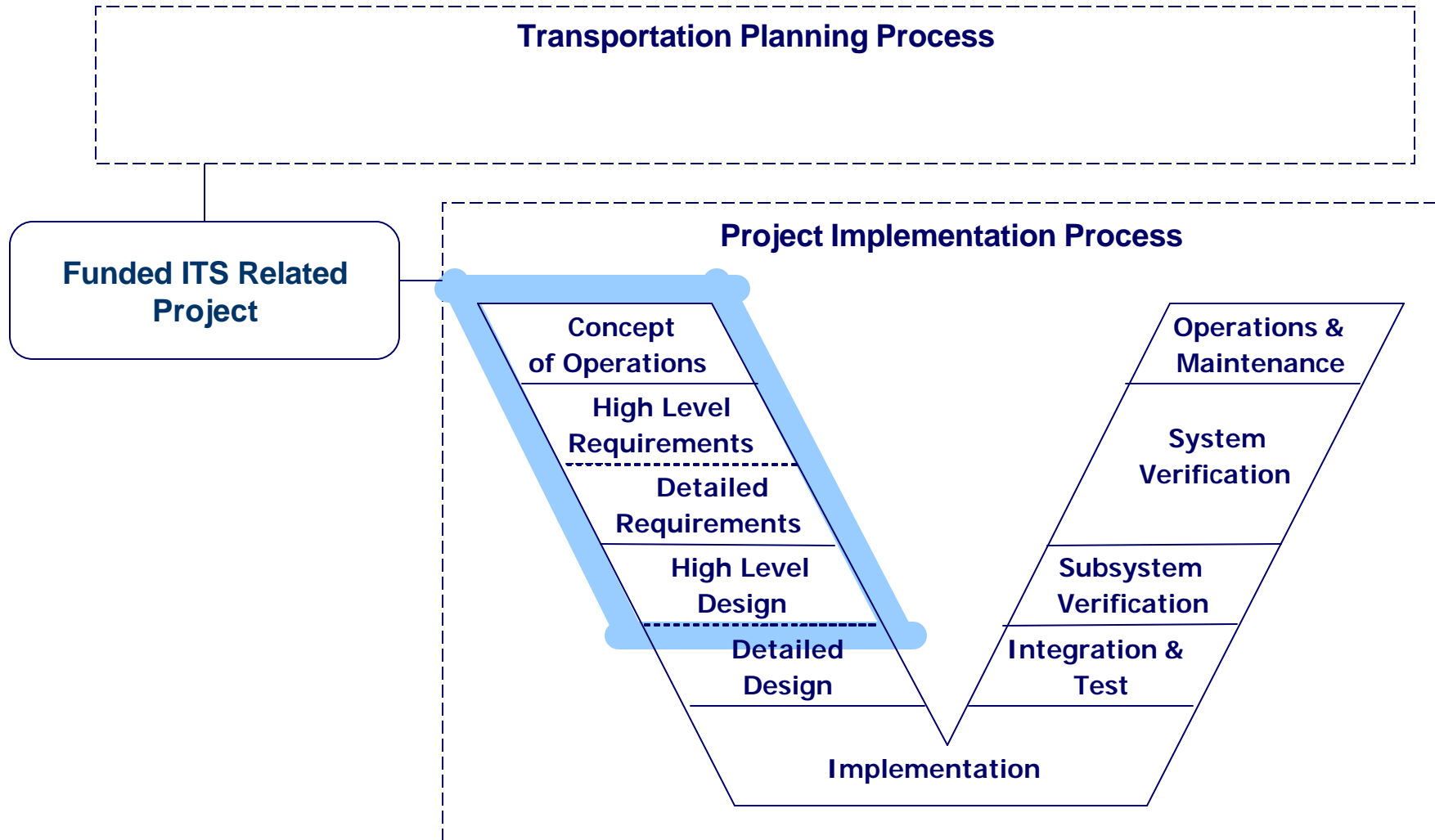
Goal: To make quality, informed decisions on the investment of public funds for regional transportation systems and services



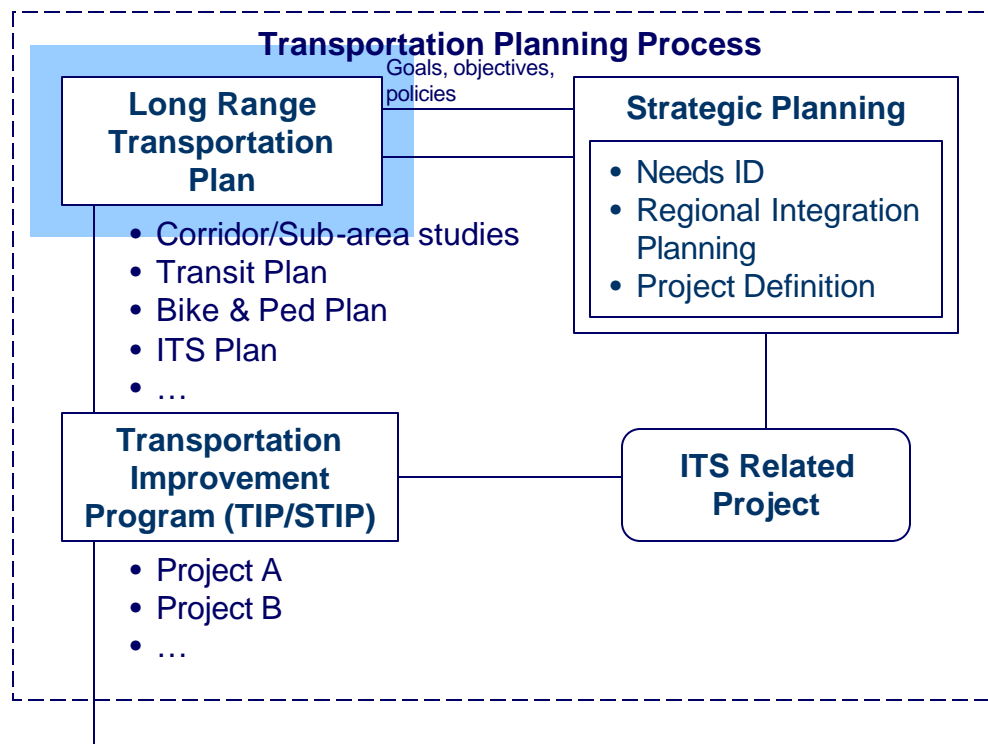
Where can the Architecture be applied in planning?



Where can the Architecture be applied in project implementation?



Long Range Transportation Plan



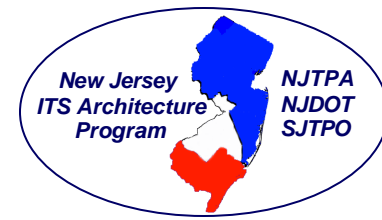
- Covers at least 20 years
- Formats vary from region to region
- Addresses regional needs, air quality, local considerations, ...

Long Range Transportation Plan



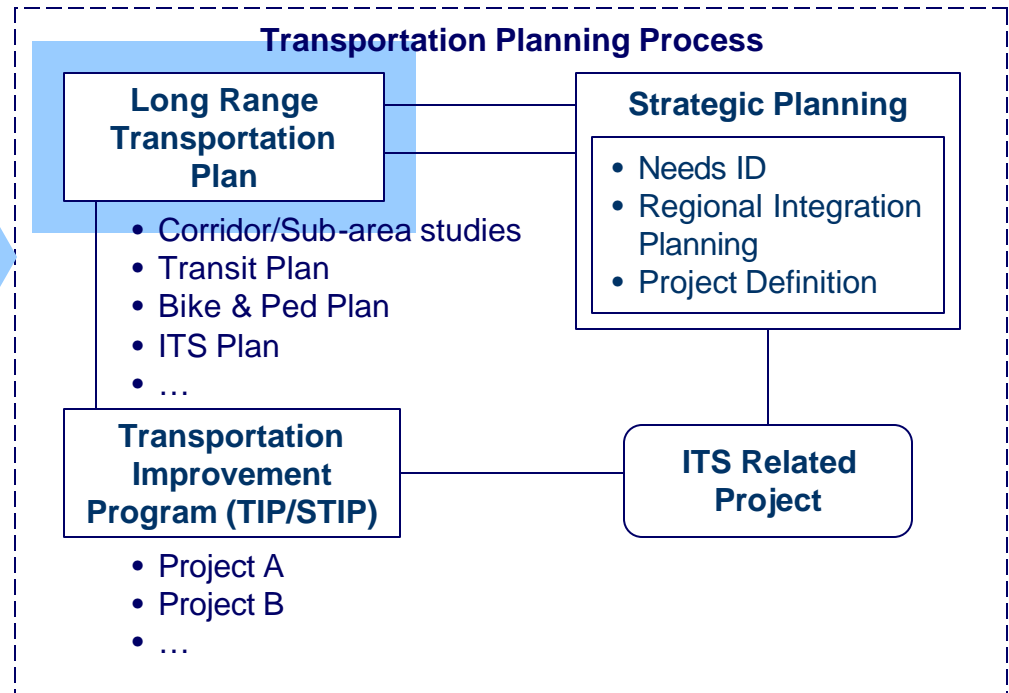
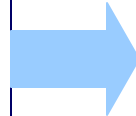
- Architecture supports definition of Long Range Plan goals and objectives
 - It provides vision of ITS in future as seen by regional stakeholders
- Architecture can be useful in
 - ITS scope
 - Understanding complexities of components necessary to realize goals in plan
 - Gain insight into potential project costs and dependencies

Applying Architecture in the Long Range Plan

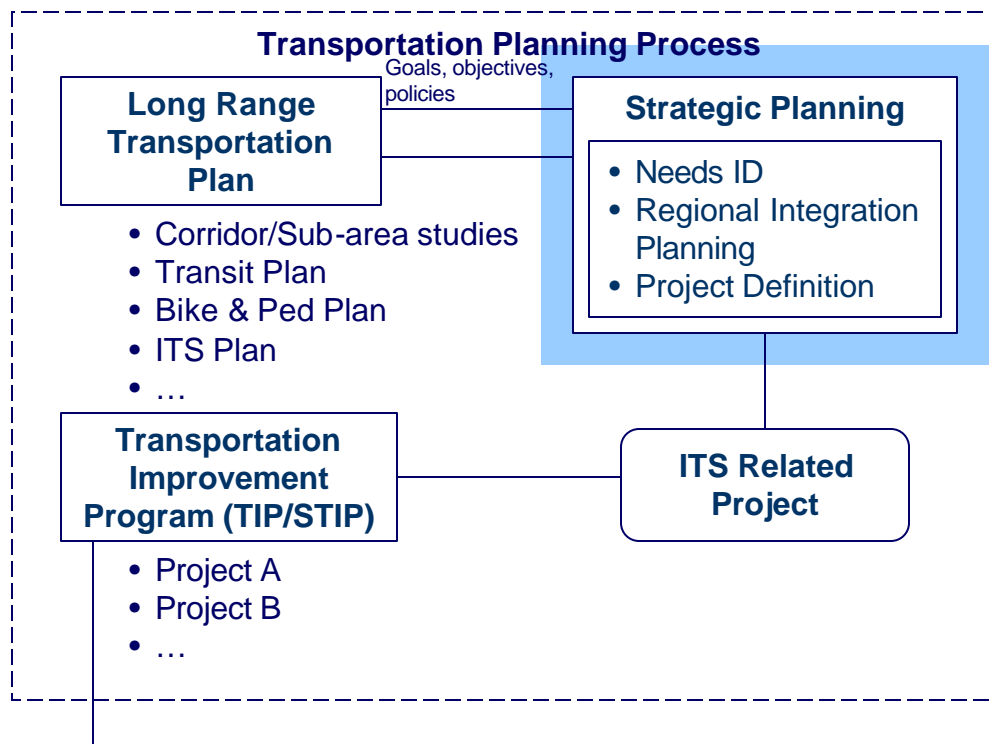


Regional ITS Architecture Products

1. Region description
2. Stakeholder identification
- 3. Operational concept**
4. Functional requirements
- 5. Interfaces / Information flows**
6. Agreements
7. Standards identification
8. Project sequencing
9. Maintenance plan



Strategic Planning



- Driver internally and/or externally to process
- Focus on “what” needs to be put in place to address regional goals and needs

Strategic Planning

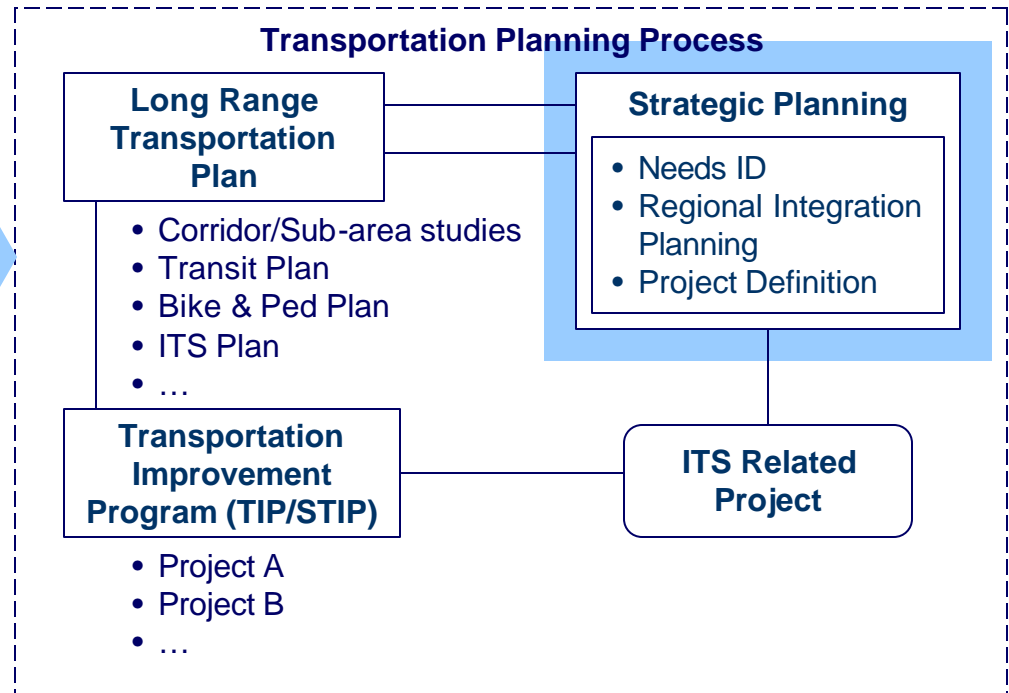
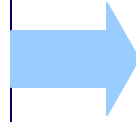
- Architecture focuses on interfaces between systems which augments strategic plan
 - It glues the pieces of the strategic plan together
- Architecture can be useful in
 - Defining integration opportunities across region
 - High-level project definition/scoping
 - Forming regional operational concepts

Applying Architecture in Strategic Planning

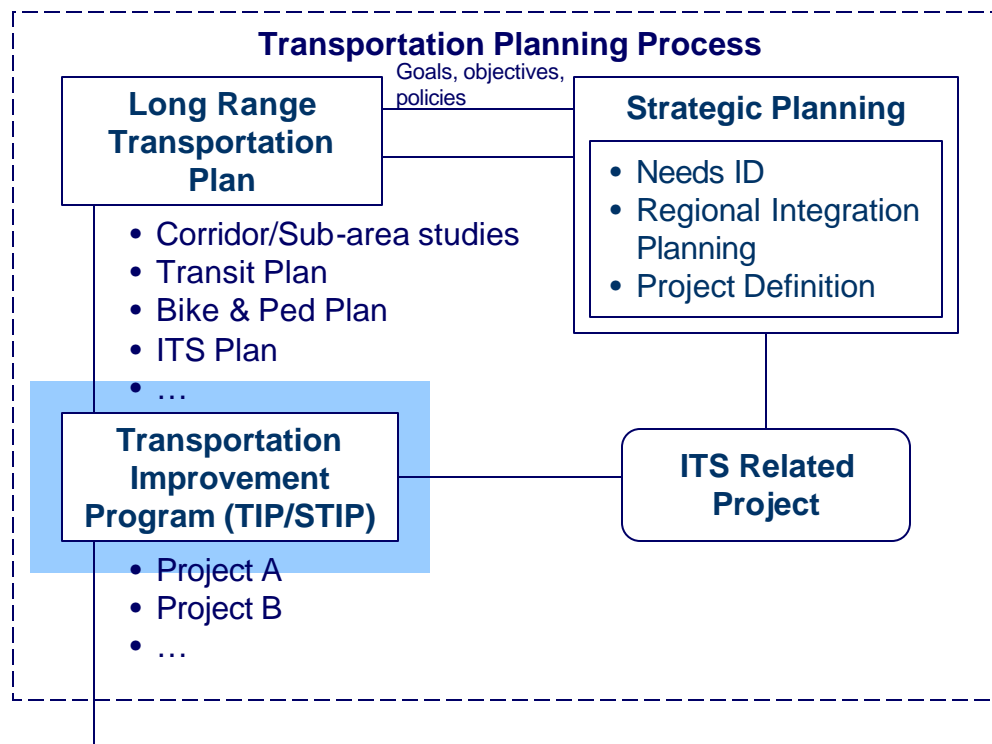


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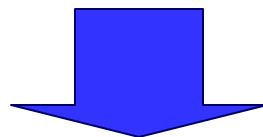
TIP/STIP



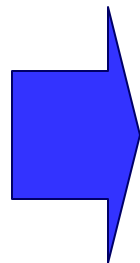
- Covers at least 3 years
- Fiscally constrained
- Top priority projects

TIP/STIP

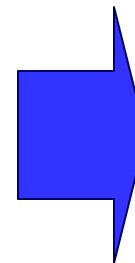
\$\$\$



Project A
Project B
Project C
Project D
...
Project N



**Planning
Organization**



TIP/STIP
Project D
Project G
Project M
Project T
Project X

TIP/STIP

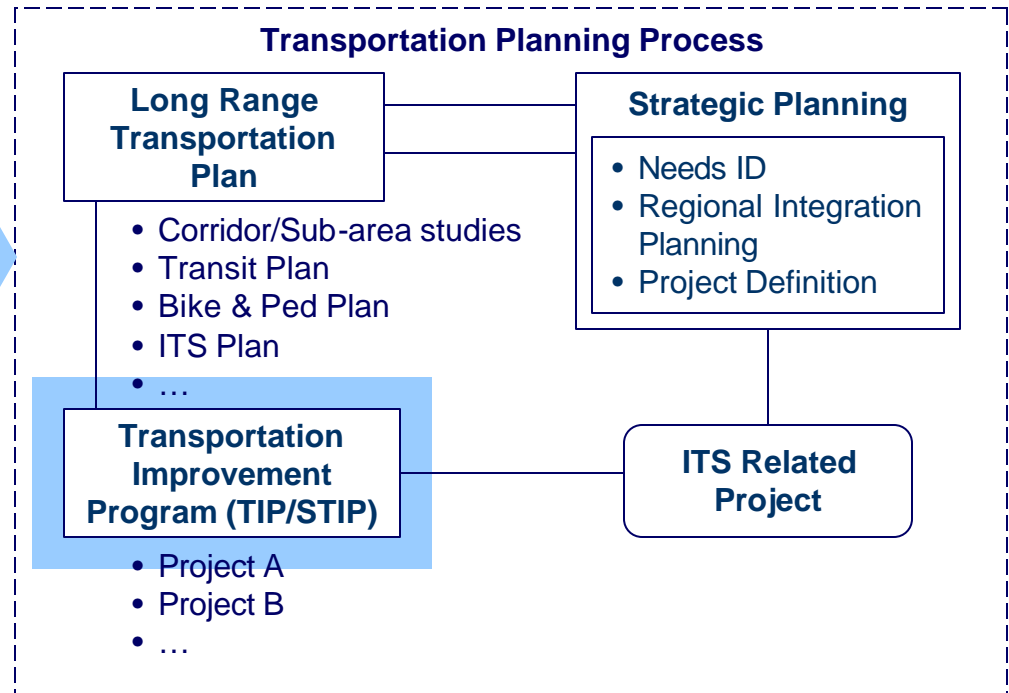
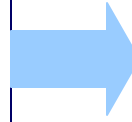
- Architecture supports fiscal definition and project priorities in TIP/STIP
- Architecture can be useful in
 - Project scoping, sequencing, and synergy
 - Understanding systems, interfaces, and development complexities of components necessary to realize goals in plan
 - Gain insight into potential project costs
 - Identify stakeholders involved with each project
 - Leverage costs across involved stakeholders

Applying Architecture in the TIP/STIP



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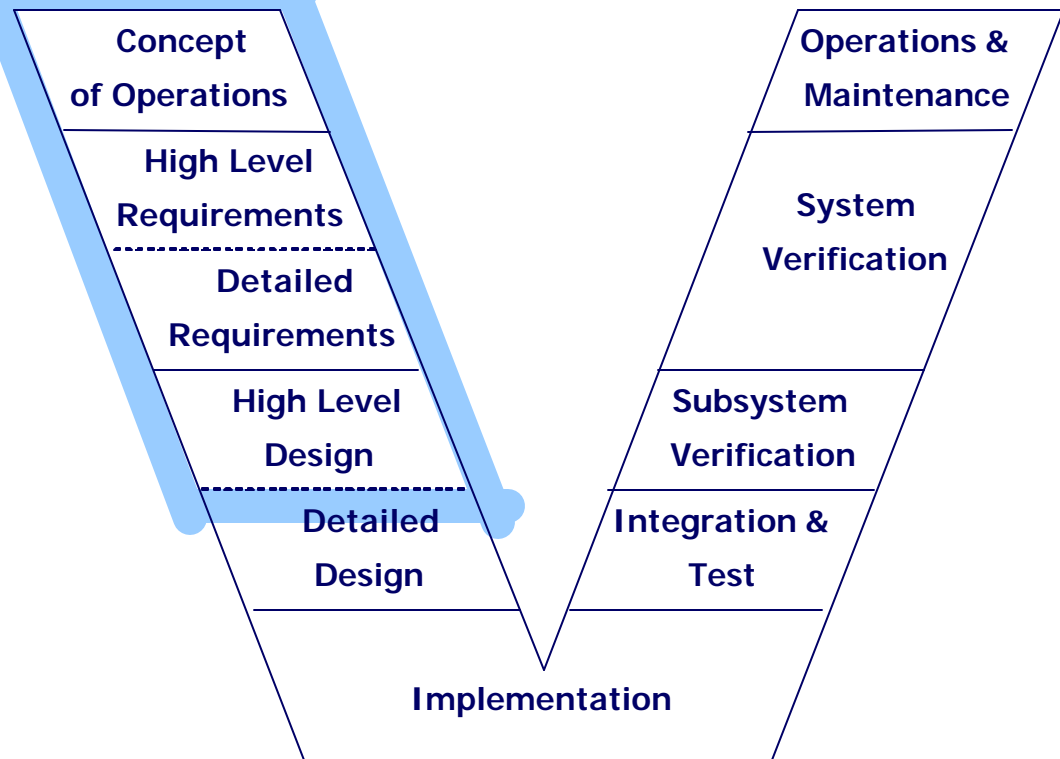
What do we end up with?

- Funded project
 - Maximizes integration opportunities
 - All stakeholders identified
 - Projects realistically defined for budget available
 - Well defined project scope

Transportation Planning Process

Funded ITS Related Project

Project Implementation Process

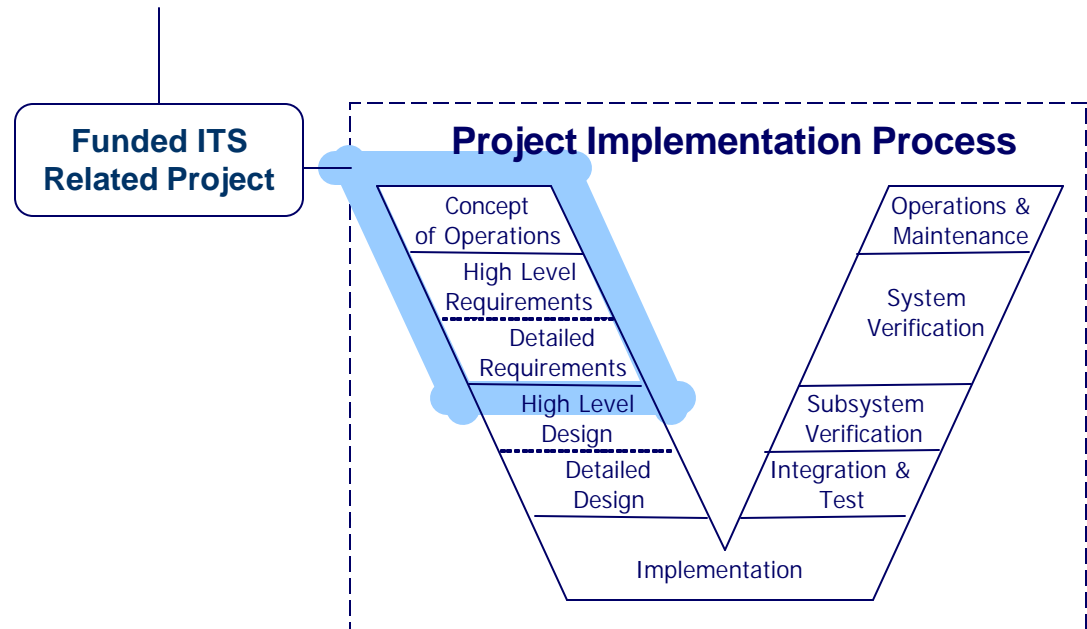


Generic Transportation Planning and Project Implementation Process Steps

Planning in Project Implementation



- More detailed planning for implementation
- Project scope defined in detail
- Requirements definition



Planning in Project Implementation



- Architecture identifies project dependencies, interfaces, and subsystems
 - Yields high-level functional requirements for project
 - Defines project scope
 - Basis for project concept of operations

Applying Architecture in Project Planning/Definition

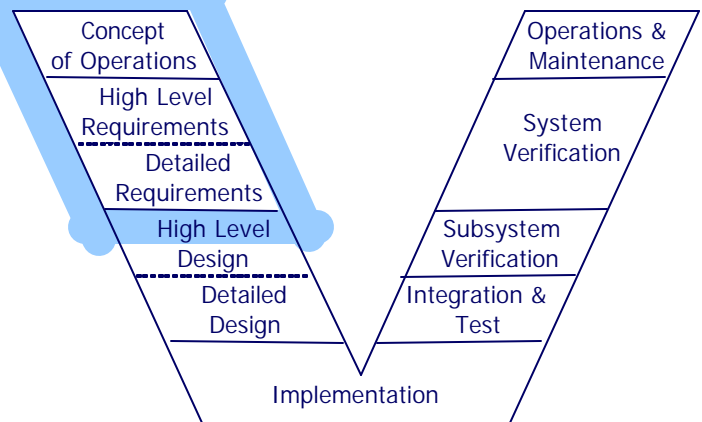


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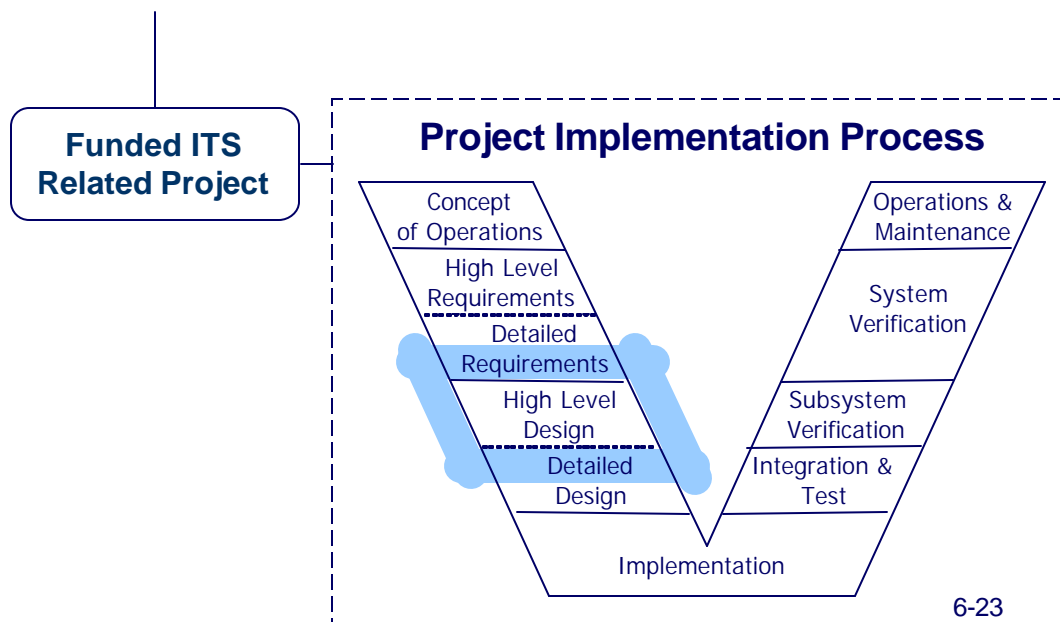
Funded ITS
Related Project

Project Implementation Process



Design

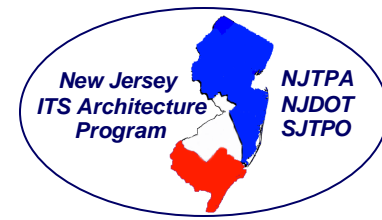
- High-level and detailed system design development
- Transition from requirements to implementation



Design

- Architecture useful at high-level
- Standards linkages point to more detail

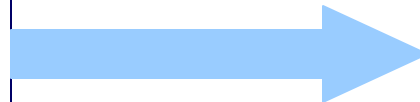
Applying Architecture in Project Design



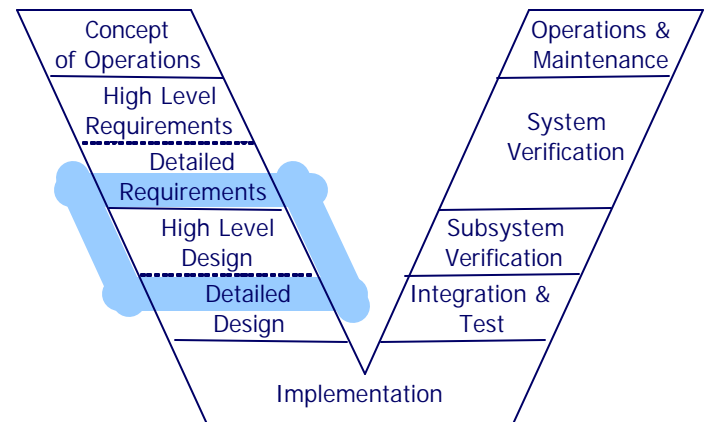
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Funded ITS
Related Project

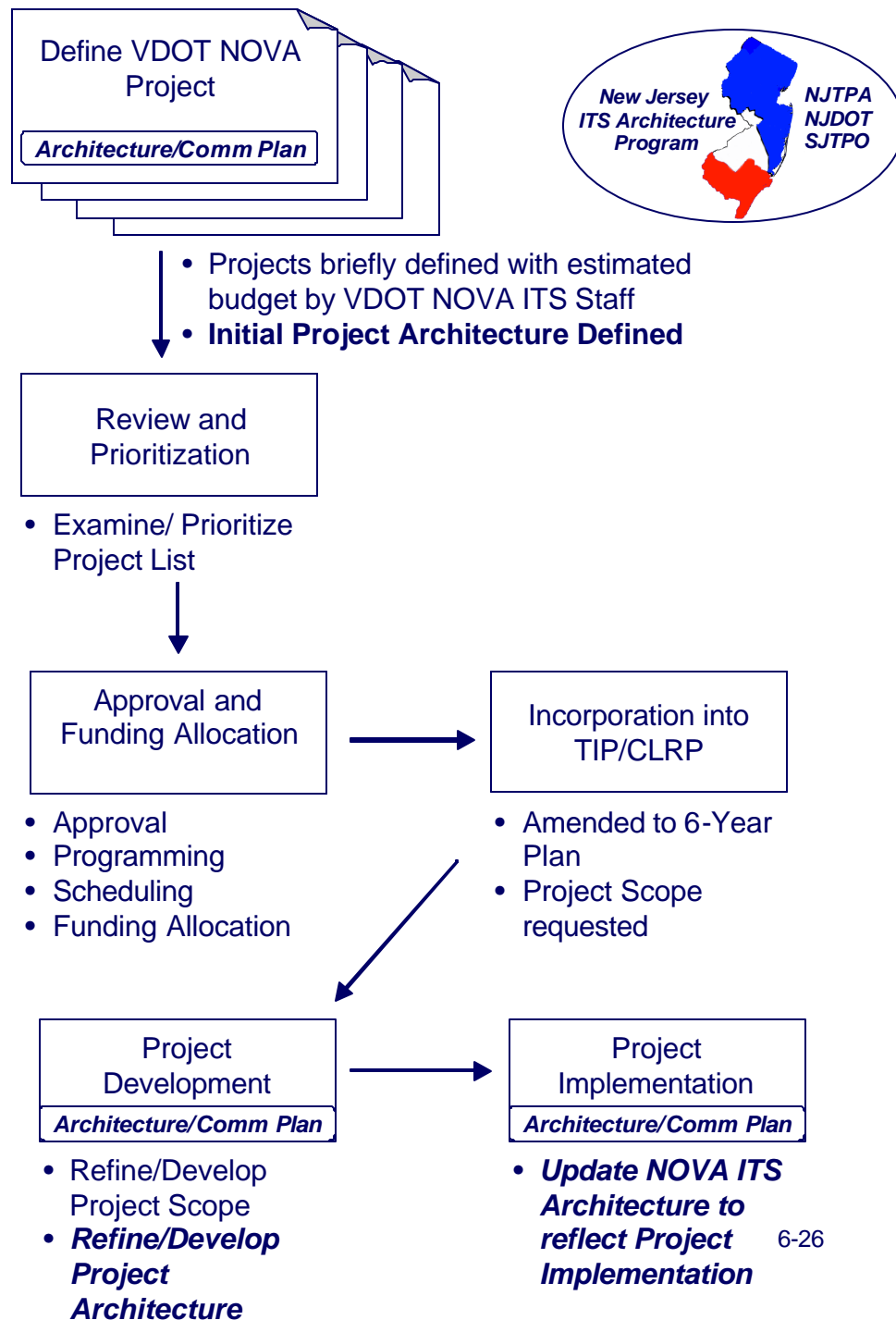


Project Implementation Process



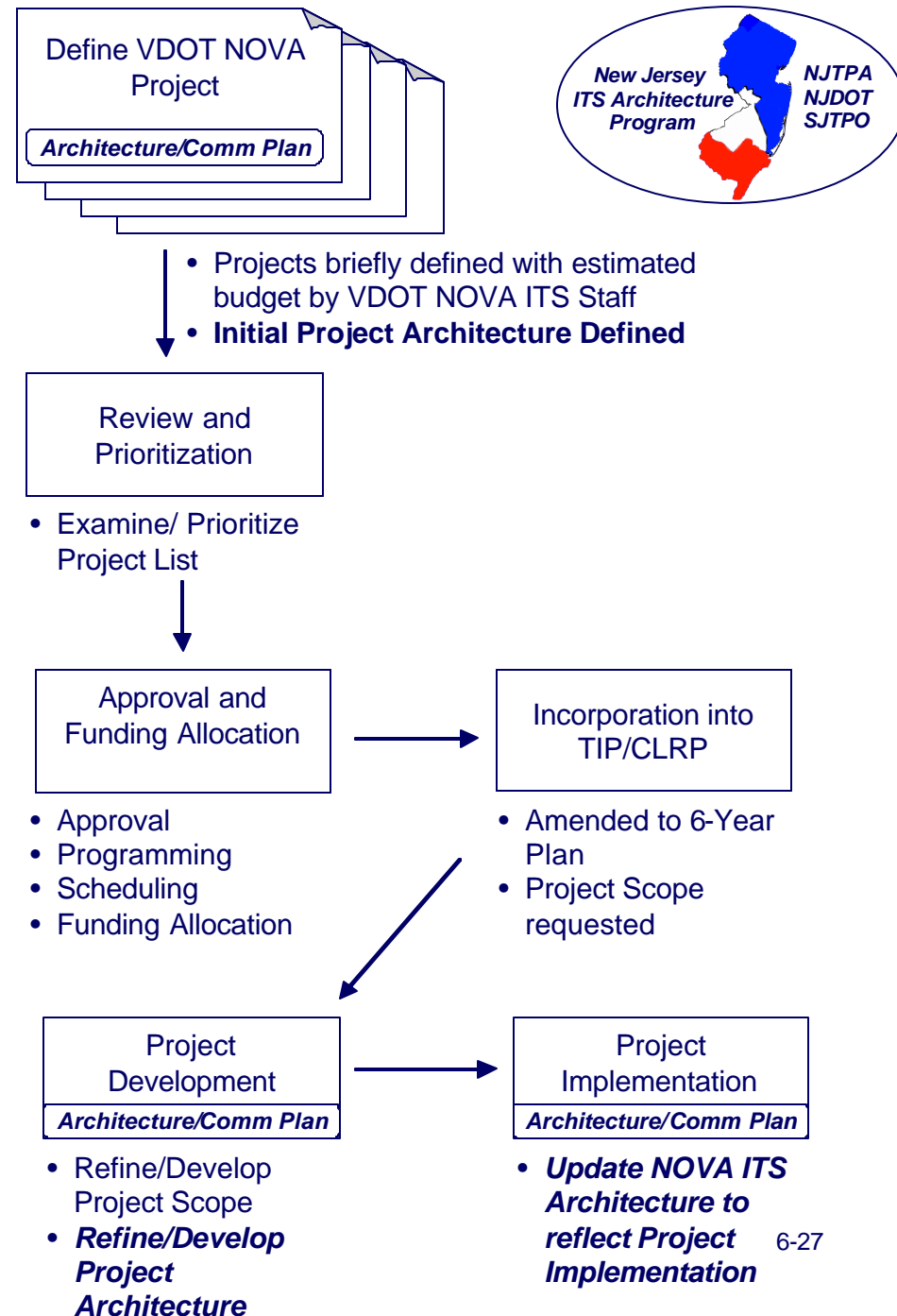
Example: NOVA Planning Process using Architecture

- Why use the NOVA ITS Architecture?
 - Aids in understanding how projects are related
 - Better communication with planning community
 - Aids in defining budget
 - Aids in stakeholder identification
 - Consensus product
- Goal
 - Ensure projects are defined with integration in mind

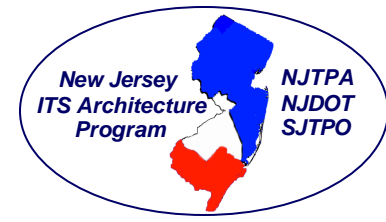


Example: NOVA Planning Process using Architecture

- Where does the architecture apply?
 - Project definition
 - Project development
- What can the architecture be used for?
 - Scope development
 - Relationships with other projects
 - Development of Project Architecture



Example: NOVA Planning Process using Architecture



What is used?

- Defining Project
 - System Inventory
 - Select elements to be included in project
 - Defines boundary/high-level scope of project
 - Interfaces / Information Flows
 - Select what information exchanges will be included in project

Example: NOVA Planning Process using Architecture



What is used?

- Project Development
 - Interfaces / Information Flows
 - Refine information exchange definitions to finalized interfaces
 - Standards
 - Select standards to use for interfaces based on information flows selected

Generic Transportation Planning and Project Implementation Process

