

# PROJECT DELIVERY

SOUND TRANSIT 3

DECEMBER 2015

## Why does it take so long to build a light rail system?

It's a reasonable question to ask as our roads fill up with cars, and reliable commute times climb.

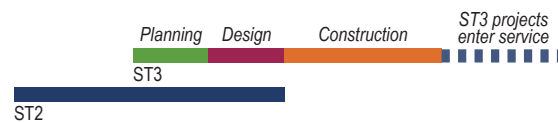
Transit can dramatically expand our region's transportation capacity, yet these major infrastructure investments take years to deliver.

Fortunately, since the original light rail segment from Sea-Tac Airport to downtown Seattle opened in 2009, Sound Transit has been making steady progress to extend light rail service north, south and east. Sound Transit 3 would continue that progress, possibly completing the long-envisioned regional light rail "spine" all the way from Everett to Tacoma and to downtown Redmond, as well as reaching other urban centers.

Sound Transit 3 would make it possible to plan and design new transit expansions at the same time currently funded projects are under construction. This would speed up the delivery of new transit

service. Some candidate projects, such as extending light rail to downtown Redmond and Federal Way, have already cleared the stage of Environmental Review and Project Design and could move to final design with approval of ST3 and be shovel ready by the time current expansion projects are completed.

### A. Start planning for ST3 as ST2 projects wrap up



### B. Wait until all ST2 projects are complete before starting planning for ST3



## Once a project is approved by voters, how long will it take to build?

Building a new light rail network within a highly developed area, especially one with steep hills and multiple bodies of water, is a complex planning, engineering and construction task.

Below is a graphic to help explain the steps required to bring a project from idea to service.



## **1. Alternatives development: 1-3 years**

During this phase alternatives are identified, evaluated and narrowed. Routes and technologies, such as bus, elevated rail, subway, etc., are evaluated. Community members, stakeholders, elected officials and the public provide comments on the alternatives. Any concerns advanced by the local jurisdictions who must ultimately issue permits for the project can require investing additional time to explore options. The Sound Transit Board typically identifies the alternative(s) to be studied during the next phase.

## **2. Environmental review and preliminary design: 4-6 years**

For large projects with potentially significant impacts, an Environmental Impact Statement (EIS) must be prepared under state and federal laws. This process gets underway with field work that may include observing and counting traffic, studying natural resources and land use and monitoring noise. A Draft EIS is published followed by a public comment period. Based on the draft, the Board typically identifies a preferred alternative that is studied along with further analysis of other alternatives. This work as well as responses to public comments on the Draft EIS are the basis for publishing a Final EIS. Staff works to complete preliminary design (defined as completing the design to the 30 percent level), and the Sound Transit Board selects the project that will eventually be built. For federalized projects requiring an EIS, the lead federal agency issues an environmental decision document, called a Record of Decision (ROD).

## **3. Final design: 2-3 years**

In this phase, architects and engineers define what the stations will look like as well as the technical specifications for the stations and tracks. Field work includes testing soil conditions and ground water levels, surveying, and locating utilities. Projects are typically broken into design milestones: 30 percent, 60 percent and 90 percent. At each milestone, the agency asks for public input on the station design. The agency acquires property and easements and works to secure permits, including land use approvals, noise variances, storm water discharge and other required permits. Large projects are divided into several smaller contracts to encourage competition.

## **4. Construction: 5+ years**

Sound Transit and its contractors balance the need to complete the project on time and on budget while minimizing construction impacts to the community. Large projects are technically challenging with numerous regulatory and other constraints. Construction time varies widely from project to project. Schedule impacts include external factors such as regulatory constraints, labor disputes, material shortages, unforeseen site conditions and weather. Especially complex or challenging projects, such as tunneling, can take seven years or more.

## **5. Testing & pre-operations: Starts a year to six months before service begins**

From the time construction wraps-up (and sometimes even before) to when service begins, work is underway to make sure that the project is ready to operate safely. This testing phase includes a safety certification process. Passengers can't begin riding until the service is certified. Activities include simulations that assure that communications, safety and emergency and other systems are running and working together. Crews work to check signals, crossing gates and other critical equipment. Trains begin running without passengers to help pedestrians, bicyclists and drivers in the vicinity learn how to travel safely with trains.

## **Will Sound Transit construct projects faster if conditions allow?**

Yes. Sound Transit manages projects to complete them ahead of schedule. Adopted timelines and budgets include allowances for external factors, but if these don't materialize, Sound Transit will open new service as soon as work is completed. The University Link project is an example of one that will open ahead of schedule and under budget.