



**Austin Transit  
Partnership**

# **Austin Transit Partnership**

Austin Light Rail Phase 1 Project

*Draft Environmental Impact Statement*

*Appendix J: Construction Methods and  
Activities*

*Austin, TX*  
January 2025

## Construction Methods and Activities

The Federal Transit Administration (FTA) and Austin Transit Partnership (ATP) are completing an environmental review of the Austin Light Rail Phase 1 Project (the Project) in Austin, Texas. This appendix to the Project's Draft Environmental Impact Statement discusses typical construction methods and activities required to build a light rail system. Sequencing and methods would be largely adopted during final design of the Project, and site-specific means and methods would be developed by the contractor. The total time to construct the Project is anticipated to be 7 years. A construction plan would be developed during final design to further detail the construction durations, schedule, and sequencing. Construction specifications would outline the responsibilities of the construction management team and the regulatory requirements and mitigation commitments that would be adhered to by the contractor.

Major components of the Project include the construction of guideways and trackwork (at-grade and aerial), bridge structures, roadway and active transportation (bicycle and pedestrian) improvements, utility relocations, stations, an operations and maintenance facility (OMF) and maintenance of way (MOW) shops, park-and-rides, and supporting system facilities. Construction would follow all applicable federal, state, and local regulations for building and safety. As an additional safety measure, to the extent permitted by law, ATP would also implement the Workforce and Equity Policies identified in Section 4.3 of the Joint Powers Agreement among ATP, the Capital Metropolitan Transportation Authority, and the City of Austin. Working hours of construction would vary to meet the type of work being performed, meet local ordinance restrictions, and align with the construction plan. Nighttime and/or weekend construction may be required to minimize impacts, such as minimizing roadway/lane closures during peak periods.

The general sequence of work would include site preparation (clearing, grading, and demolition of existing structures); utility protection and relocations; installation of the guideway, stations, and roadway improvements; and installation of the power and systems elements, including traction power substations, cabinets, catenary, overhead catenary system poles, and traffic signals. The bridge crossings of Blunn Creek and Country Club Creek and retaining walls on East Riverside Drive and Guadalupe Street would likely be phased in concert with the guideway/roadway work. Construction of the Lady Bird Lake bridge, OMF and MOW shops, and park-and-ride facilities could be constructed independently of the other Project elements.

Demolition would require strict controls to ensure that adjacent buildings and infrastructure are not damaged or otherwise affected. These controls would include the installation of fencing and barricades, environmental monitoring, and restrictions on the types of equipment and demolition procedures used during construction.

Roadway elements would likely be constructed in phases to reduce the duration of construction within each section of the alignment (North, Downtown, South, and East). The contractor would be required to maintain existing access to and from residences and businesses throughout the construction period. A potential phased approach to construction would use one side of an existing roadway for bi-directional traffic while the guideway and roadway improvements are

constructed in the closed roadway area. A Staged Traffic Management and Control Plan would be developed to provide the measures that would be implemented to ensure a safe working environment with traffic control and detours where appropriate.

Construction staging areas would be needed for equipment and construction along the alignment and would be coordinated with roadway work and phasing. Construction easements beyond the Project footprint would be minimized to the greatest extent feasible to reduce impacts on adjacent traffic and land uses. Construction vehicle haul routes would be determined and coordinated with the City of Austin. Construction staging areas would be located on both the north and south sides of Lady Bird Lake for the duration of bridge construction. Temporary rerouting of trail users via detour around areas of construction and beam placement would be required. A summary of construction activities and equipment used to construct the different elements of the Project is provided in **Table 1**.

**Table 1: Construction Activities and Equipment**

Element Type	Description	Equipment
Demolition	Clear and grub right-of-way, grade (flatten/level), mobilize equipment and materials.	Bulldozers, backhoes, loaders, bobcats, dump trucks, demolition saws, excavators, pavement breakers, woodchippers, jackhammers, air compressors, and water trucks for dust control.
Utility relocation	Relocate or temporarily reroute utilities (typically would not exceed 5–10 feet of disturbance); protect in-place utilities that would remain.	Trench excavators, loaders, directional boring equipment, jackhammers, pavement saws, haul trucks, excavators, backhoes, trucks, cranes, generator/compressors, concrete trucks, rollers, compactors, and concrete pavers.
Light rail guideway <ul style="list-style-type: none"> <li>• At-grade (or retained fill) from 38th Street to Lady Bird Lake bridge structure</li> <li>• Lady Bird Lake bridge structure (light rail, bike/pedestrian)</li> <li>• At-grade (or retained fill) from Lady Bird Lake through Waterfront</li> </ul>	Install light rail, track slab structure, duct bank, and systems, requiring excavation to a depth of 6 feet or less. Typical at-grade section includes 28-foot guideway with embedded track and curbed roadway on either side with bikeway/pedestrian elements and overhead and underground utilities. Roadway portion consists of pavement, base, and subbase with curbs and drainage elements.	Concrete trucks, lifting and placing equipment, large cranes, barges, pile driving equipment for soldier piles, hoe rams or other rock removal equipment, and smooth drum vibratory roller or plate compactor.

Element Type	Description	Equipment
<p>Station to Blunn Creek</p> <ul style="list-style-type: none"> <li>• Bridges over Blunn Creek (light rail, eastbound and westbound roadway)</li> <li>• Retained fill from Blunn Creek to I-35</li> <li>• At-grade from I-35 to Country Club Creek</li> <li>• Bridge over Country Club Creek (light rail, eastbound and westbound roadway)</li> <li>• At-grade from Country Club Creek to Yellow Jacket</li> </ul>	<p>Install retaining walls where needed to hold back slopes and at bridge abutments and drainage swales.</p> <p>Construct Lady Bird Lake bridge via top-down construction, span by span from cantilevering from self-contained gantries or through use of cranes and drill rigs mounted on a barge. Bridge structures would be cast-in-place or precast concrete construction methods. Temporary access roads and laydown areas would be required at both the north and south shores.</p> <p>Construct light rail/roadway bridge structures (likely in concert with light rail guideway) via cast-in-place or precast construction methods. Install temporary flood walls if needed to protect construction site.</p>	
<p>Stations</p>	<p>Construct simultaneously with light rail guideway segments using standard building materials: foundation, columns, walls, platform slab, and canopies. Install canopies, station furniture, and amenities.</p>	<p>Augur, excavator, dump trucks, concrete trucks with pumping equipment, trucks to deliver building materials, small to mid-size cranes, forklifts, generator sets, loaders, and water trucks for dust control.</p>
<p>Surface park-and-ride</p>	<p>Pave and stripe, and install concrete curbs, lighting, driveway, sidewalks, and landscaping.</p>	<p>Air compressor, concrete pumping equipment, paving machine, rollers, dump trucks, front-end loaders, forklifts, crawler cranes, crawler bulldozers/loaders, rubber-tired loader/bobcat, delivery trucks, and water trucks for dust control.</p>
<p>Structure park-and-ride</p>	<p>Install structure foundation, cast-in-place concrete columns, concrete slabs, and precast structural elements.</p>	<p>Soil augers, pile drivers, air compressors, concrete pumping equipment, paving machine, rollers dump trucks, front-end loaders, forklifts, large crawler cranes, crawler bulldozers,</p>

Element Type	Description	Equipment
		loaders, rubber-tired loader/bobcat, delivery trucks, and water trucks for dust control.
OMF and MOW	Construct facilities (using concrete block, corrugated metal, or similar industrial materials), rail vehicle storage yard tracks, lead track to mainline, vehicle wash, and parking facilities. Install systems and landscaping.	Tractor trailer rigs, loaders, earthmovers, graders, bobcats, forklifts, cranes, concrete trucks, excavators, paving machines, rollers, and materials/equipment trucks.
Traction power substations and communication cabinets	Install structure foundation, cast-in-place concrete columns, concrete slabs, and precast structural elements. Install utilities.	Soil augers, pile drivers, air compressors, concrete pumping equipment, paving machine, rollers, dump trucks, front-end loaders, forklifts, large crawler cranes, crawler bulldozers, loaders, rubber-tired loader/bobcat, delivery trucks, and water trucks for dust control.
General landscaping	Install landscaping in disturbed areas, stations, park-and-rides, and other system elements	Soil augers, concrete pumping equipment, rollers, dump trucks, front-end loaders, forklifts, and rubber-tired loader/bobcat.