



Division 34 Transportation

34 05 00 Common Work Results for Transportation

34 05 10 General Requirements for Transportation

1. Parking structure plans shall satisfy Crime Prevention through Environmental Design (CPTED) criteria. That is, they shall demonstrate:
 - 1.1. Natural surveillance via open stairwells, high pedestrian and vehicular visibility, good nighttime lighting, and other features.
 - 1.2. Territorial Reinforcement, differentiating the structure from public right of ways.
 - 1.3. Natural access control where appropriate by means of gates and other features.
 - 1.4. Target hardening if called for.
 - 1.5. Minimization of interior shear walls and obstructions.
 - 1.6. Glass-backed elevators.
 - 1.7. Columns pushed to the head of the stalls, away from the drive aisles
2. The goals and guiding principles of the UW-Madison Campus Master Plan (latest edition) shall be considered and referenced as part of the planning, design, detailing, and material section for every project.

34 05 20 Drawing Requirements for Transportation

1. Refer to *Section 01 05 20 Drawing Requirements for All Projects* for additional information regarding project drawing requirements.
2. Refer to *Section 32 05 20 Drawing Requirements for Exterior Improvements* for additional information regarding project drawing requirements.
3. Plans for trees, shrubs, perennials, and turf planted in parking lots and bike parking areas shall be included in the 35% review documents.
4. Scaled and dimensioned plans showing the stalls, ramps, and drive aisles shall be provided at the 35% review documents or early enough that structural changes to the ramp and any connected building can still be accomplished. Transportation Services reserves the right to approve all parking structure plans before they are used in a building's design.
5. Snow removal and snow storage plans shall be included in all parking plans.

34 05 30 Design Parameters for Transportation Planning

34 05 31 Bicycle Lanes and Multi-Use Paths

Refer to *Section 32 05 30 Design Parameters for Exterior Improvements* for requirements for Bike Routes and Multi-use paths.



34 05 32 Bicycle Parking Facilities

Refer to *Section 12 93 13* for Bicycle Racks, Bicycle Parking Facilities, and Bicycle Parking in Parking Structures requirements

34 05 33 Moped and Scooter Parking

Refer to *Section 32 05 30 Design Parameters for Exterior Improvements* for requirements for moped and scooter parking.

34 05 35 Automobile Parking Structures

1. All parking structures shall be designed with a minimum 20 foot setback from property lines or street curbs to allow for adequate landscape screening and trees.
2. Parking structures shall be designed to efficiently maximize parking with the least amount of wasted space with respect to such features as location of support columns, length of parking bays, ramps from one level to the next, storage rooms, stairs, elevator rooms, and any other feature.
3. Entrance ramps for parking structures shall conform to City of Madison standards regarding sight lines, including ramp incline, driveway aprons, walls around the entrance ramp, and any other visibility issue affecting the driver or pedestrians.
4. The corner radii and other features of ramps and drive aisles, including the placement of access control equipment, shall be tested with AutoTurn or its equivalent for a full-sized personal vehicle.
5. Each stall inside the parking structure shall be 8 feet, 6 inches wide and be measured from the edge of any columns or other obstructions.
6. Drive aisles shall be a minimum of 24 feet wide for two-way traffic. The width of drive aisles for one-way traffic-oriented parking areas shall be decided on a case by case basis taking into account the geometry of the parking stalls relative to the drive aisles.
7. The number of accessible stalls shall be determined using a 1:6 ratio in consultation with UW-Madison Transportation Services. The UW-Madison accommodates all disability parking needs and provides a number of accessible stalls that meets or exceeds ADAAG requirements.
8. Accessible stalls shall comply with ADA and their location shall be in the stalls nearest to an accessible route and accessible entrance.
 - 8.1.1. Do not paint ADA symbols for accessible stalls on the parking stall surface.
 - 8.1.2. Accessible stalls shall be eight (8) feet wide with a five (5) foot access aisle.
 - 8.1.2.1. Two accessible stalls can share one access aisle.
 - 8.1.3. Van accessible stalls shall be eleven (11) feet wide with a five (5) foot access aisle on the passenger (right) side of the stall.
 - 8.1.3.1. Van accessible stalls must maintain eight (8) feet four (4) inches of vertical clearance from the entry of the structure to the parking space



and the exit of the structure.

8.1.3.2. An accessible stall can share the Van stall access aisle.

8.1.4. Signs for accessible stalls shall be provided by UW-Madison Transportation Services to be installed by the contractor in consultation with UW-Madison Transportation Services with a minimum of 60” between the bottom of the sign and the ground.

8.1.4.1. See Division 10 14 53 Traffic Signage and Sign Posts for standards.

9. Motorcycle parking stalls are 5 feet wide by 10 feet long at minimum and shall be paved in concrete.
10. Each parking structure shall have a clearance of at least 7 feet, 4 inches on all floors. A clearance of 8 feet, 4 inches is desired on the first level to accommodate vans for persons with disabilities. This clearance shall be posted on a headache bar outside and above each entrance and ticket dispenser if access control equipment is used.
11. In the case that Paratransit buses may need to enter a parking structure, a clearance of 10 feet, 6 inches shall be provided on all floors that the buses may need to access.
12. If a booth is required in the parking structure, then the entry and exit lanes shall be designed to accommodate access control equipment used by UW-Madison Transportation Services.
13. Post-and-cable barriers shall be provided wherever a grade separation between two paved areas is encountered.
14. Parking will be controlled by parking access control (PARCS) equipment.
 - 14.1. Concrete infrastructure and the electrical conduits and hand holds for access control equipment shall be provided in accordance with specifications provided by UW-Madison Transportation Services and their PARCS supplier.
 - 14.2. In some cases, high-speed security doors will need to be provided.
15. A copy of all operating and maintenance (O&M) manuals for all equipment and operating systems shall be provided to Transportation Services.
16. Follow standards defined elsewhere in “General” and “Construction Site Plan” as they apply to traffic, parking, and transportation impact elements of project.
17. There shall be a minimized loss of auto parking stalls (including accessible stalls), bike racks, and moped/scooter parking areas.
18. Disruptions to accessing lots and/or roads for special events shall be prevented. Coordinate any access issues with UW-Madison Transportation Services.
19. All parking structures shall be built with a minimum of one single unisex restroom. Restroom shall have one ADA compliant toilet, one garden hose water hook-up, a space heater, manual lock on the door, janitorial stainless-steel sink, and small hot water heater. Restroom shall be keyed to TS booth key.



20. All parking structures shall be built with at least one environmentally controlled room for storage. The minimum size shall be 12 feet x 12 feet. This room can be used to fulfill the requirement of having a snow blowing equipment room and if so, shall meet requirements for storage of combustible materials. Storage room shall have electricity run to it for possible space heaters or other electrical needs. There shall be a minimum of three duplex outlets. Storage room to be keyed to TS booth key.
21. One elevator with an emergency phone shall be located in opposite corners of the parking structure for a minimum of two per ramp.
22. Snow Chutes and Snow Exposure:
 - 22.1. Parking structures that have an exposed upper level shall be equipped with at least one snow chute.
 - 22.2. It shall be presumed that parking structures need snow removal design components unless it is completely clear that snow cannot fall or be blown from above or from open sides into the ramp.
 - 22.3. Snow chutes shall be gated at the top with a sliding gate and locked with a UW-Madison provided master lock key #2027.
 - 22.4. Snow chutes shall have a flat concrete area at the bottom of the chute where snow can be stored until it is hauled away. This area shall be accessible by trucks that are used to haul the snow off site.
 - 22.5. Snow chute designs shall be approved by UW-Madison Transportation Services.
23. Stairwells:
 - 23.1. Any stairwell that is exposed under the stairs shall be gated. Chain link fence shall have a swing gate attached. Padlocks shall not be used.
 - 23.2. Stairwells and elevators shall be located as needed based on the size of the structure and proximity to routes leading to key pedestrian destinations.
 - 23.3. Landings in the stairwells shall be kept to a minimum square footage, to help reduce the desire to use the stairwells for shelter.
 - 23.4. Stairwells shall have all appropriate signage and exit signs as required by codes and these guidelines.
 - 23.5. Stairwells shall follow the requirements set for hose bibs and drainage.
 - 23.6. All stairwell walls shall be painted with anti-graffiti paint.
 - 23.7. Treads on stairs shall be durable and non-slip.
 - 23.8. Stairwells shall be designed with user safety in mind. They shall be well lit, as visible as possible from outside and elsewhere, and shall generally not allow someone to be hidden from view in any area.
 - 23.9. Bird diversion treatment should be added to all windows.



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- 23.10. Stairwells shall be environmentally controlled.
 24. For window washing equipment see *Section 11 24 23 Window Washing Equipment*.
 25. For fire hose connections and drains see *Section 21 12 50 Fire Suppression in Parking Structures*.
 26. For signage see *Section 10 14 55 Parking Structure Signage*.
 27. For pavement markings in parking structures see *Section 32 17 23 Pavement Markings*.
 28. For lighting requirements in parking structures see *Section 26 55 00 Parking structure Lighting*.
 29. For requirements for mirrors in parking structures see *Section 10 86 00 Mirrors in Parking structures*.
 30. For locking and hardware requirements specific to parking structures see *Section 08 71 40 Parking Structure Locking Requirements*.
 31. For trash receptacle and ash tray requirements see *Section 12 91 00 Parking Structure Furnishings*.
 32. For fire extinguishers and cabinets see *Section 10 44 00 Fire Protection Specialties*.

34 50 00 Transportation Equipment

34 50 10 Parking Structure Equipment

1. UW-Madison Transportation Services shall provide information on all forms of parking equipment as needed.
2. UW-Madison Transportation Services shall provide supplier specifications for all parking equipment to be installed.
3. When a booth is needed, consider the following in the plans: Booth – ADA compliant, telephone hook-up, computer hook-up, minimum 2, duplex electrical outlets, heater, air-conditioning, hook up to the gate system, and a safe for money.