

Basic Specifications

March 9, 2004

Cabin

- Exterior Dimensions: 102.5in (250.4cm) long x 66.2in (168.2cm) high x 60.2 in (153.0cm) wide
- Seat: 54in (137.2cm) wide; Bottom of seat is divided into 3 parts, each able to flipped up individually, useful for accommodating mobility devices [eg, wheelchairs], a bicycle, or other items
- Payload Capacity: 650lb (294.9kg)
- Gap between guideway and cabin: The cabin is fastened to the vehicle chassis, which rides inside the guideway, via two vertical pylons; Allow 1in (2.5cm) high spacing between the bottom surface of the cabin and the top of the guideway covers

Chassis

- Length: 9ft 5in [113in] (2.87m), including the front and rear shock absorbers [bumpers]

Guideway, Posts, Brackets

- Guideway Exterior Dimensions: Cross-section 36in (91.4cm) wide x 38in (96.5cm) high, including covers
- Guideway Slots: A 4in (10.2cm) wide slot runs longitudinally along the top of the guideway between the covers, through which pass the two pylons connecting the vehicle chassis and cabin; An 6in (15.3cm) wide slot runs along the bottom between the guideway covers
- Posts: Can vary in height; 16.0ft [192in] (4.88m) high is usually assumed for basic planning purposes; At 16ft (4.88m) high the post is 10in (25.4cm) diameter at the top and 22in (55.9cm) diameter at the ground
- Post Brackets: Fasten the posts to the guideway internal truss structure; Configured in "X" form [plan view] ~24in (61.0cm) wide on both sides of the top of the post in the direction of the guideway, ~14in (35.6cm) wide on both sides of the post laterally across the underside of the guideway
- Post Bases: The dimensions depend on the kind of footing, which depends on soil conditions.
- Spans: Maximum span with basic unmodified guideway structure is 90ft (27.4m)

Weights

- Vehicle: 1,000lbs (453.6kg) Cabin and chassis, empty
- Vehicle: 1,650lbs (748.4kg) Cabin and chassis, fully-loaded
- Guideway: 135lbs/ft (200.9kg/m)
- Guideway and Vehicles: 310lbs/ft (461.2kg/m); Assumes fully loaded vehicles one after the other nose-to-rear on the guideway, an extremely unlikely scenario

Gradient Capability

- Nominal design air-cooled LIM [linear induction motor] rating: 15% gradient 30ft (9.1m) high at 30mph (48.3km/h) ; 15% gradient 50ft (15.2m) high at 40mph (64.4km/h)
- Higher line speed going into the gradient yields greater lift; Lower gradient percent yields longer lift.
- LIMs can be rated, within limits, for higher gradients; Water cooled LIMs would yield higher gradients

Curves, Curve Radii

- Guideways in curves are superelevated [banked]
- Nominal design specifications: Superelevation 12% or 6.843deg; Maximum lateral acceleration and comfort jerk 0.25g
- Curve radii will increase exponentially with line speed going into the curve
- For radii at nominal specifications and various line speeds, contact the Taxi 2000 Corporation
- Minimum curve radius: 36ft (11.0m) at 14mph (22.5km/h)

Line Capacity

- Maximum flow: Two vehicles per second; i.e., 7200 Vehicles per hour at 0.5 second headway

Equal to 3 lanes of expressway at average U.S. occupancy of about 1.1 persons per vehicle and accounting for the redistribution of empties
- Passenger flow per hour: Based on Maximum flow (above): Can assume 30% of vehicles are empties being redistributed, thus 70% of the vehicles are carrying from 1 to 3 passengers –

5040 (at 1 passenger per vehicle) to 15120 (at 3 passengers per vehicle)
- Maximum Vehicles per Mile: 200 vehicles/mi (124 vehicles/km) at 30mph (48.3km/h)

The maximum number of vehicles is inversely proportional to line speed

Station Capacity

Stations can be sized from one to about 15 berths

- 450 Vehicles per hour for a 3 berth station
- 750 Vehicles per hour for a 6 berth station
- 950 Vehicles per hour for a 9 berth station
- 1250 Vehicles per hour for a 12 berth station
- 1500 Vehicles per hour for a 15 berth station

All assume a normal time distribution for passenger boarding and de-boarding in the stations

Stations

- Station Access from Street: Access to all stations will be provided by at least one set of stairs and at least one handicapped accessible elevator in each station. If the station is an in-building type, existing stairs and elevator nearby will suffice
- Ticketing/Farecard Machine: If the system requires collection of fares, each station will have at least one ticketing/farecard machine at which single or multi-use farecards can be purchased
- System Map: Each station will have at least one map of the system via which passengers can determine the number or code of their destination station
- Berth Stanchions: Each berth in each station will have a stanchion located at each berth to the left or right side of the cabin door with a keypad via which passengers can enter their destination station number or code; if the system requires fares each stanchion will also have a farecard slot for swiping the farecard to enable card validation; destination can also be entered via a touch screen
- Minimum Berthing Space: 10.0ft [120.0in] (3.0m) per berth; "Lb" in formula following
- Outside Barrier: Since the cabin door wraps completely around the cabin shape, thus opening on both sides of the cabin, there must be a barrier or parapet running along the far side of the in-station section of the offline station guideway approximately 2in (5.1cm) from the side of the cabins