

"Golden Necklace" of New South Wales



Project combines rapid air metro TSY (Transport Systems Yunitskiy) at an altitude of 100 m and high-rise buildings for various purposes with a distance of 1.5-2 km, having deployed passenger stations on the upper floors and roofs.

Buildings can be multifunctional: hotel, residential, office, retail, sports and entertainment, and combined with a usable area of 10-20 sq. meters each.

Combination of air metro TSY with high-rise buildings will not increase the cost of living space in them, but reduce the cost of the transportation system, since it supports, foundations, and the overlap stations will be combined with carrier frames, foundations and floors of buildings.

Buildings in layout and architecture may be traditional, which cost and payback is equal to usual high-rise buildings. However, their combination of stations and clean, safe and affordable public transport, as well as their placement in the most attractive places along the coast and marine areas, make them more desirable to buyers.

TSY air metro not only become a link between high-rise buildings and shore, but develops in an above-ground public transport in the territories of New South Wales municipalities, including the expansion of Sydney.

It is advisable to place high-rise buildings within walking distance, in increments of 1500-2000 m. Metro travel time between stations - 1-1.5 minutes.

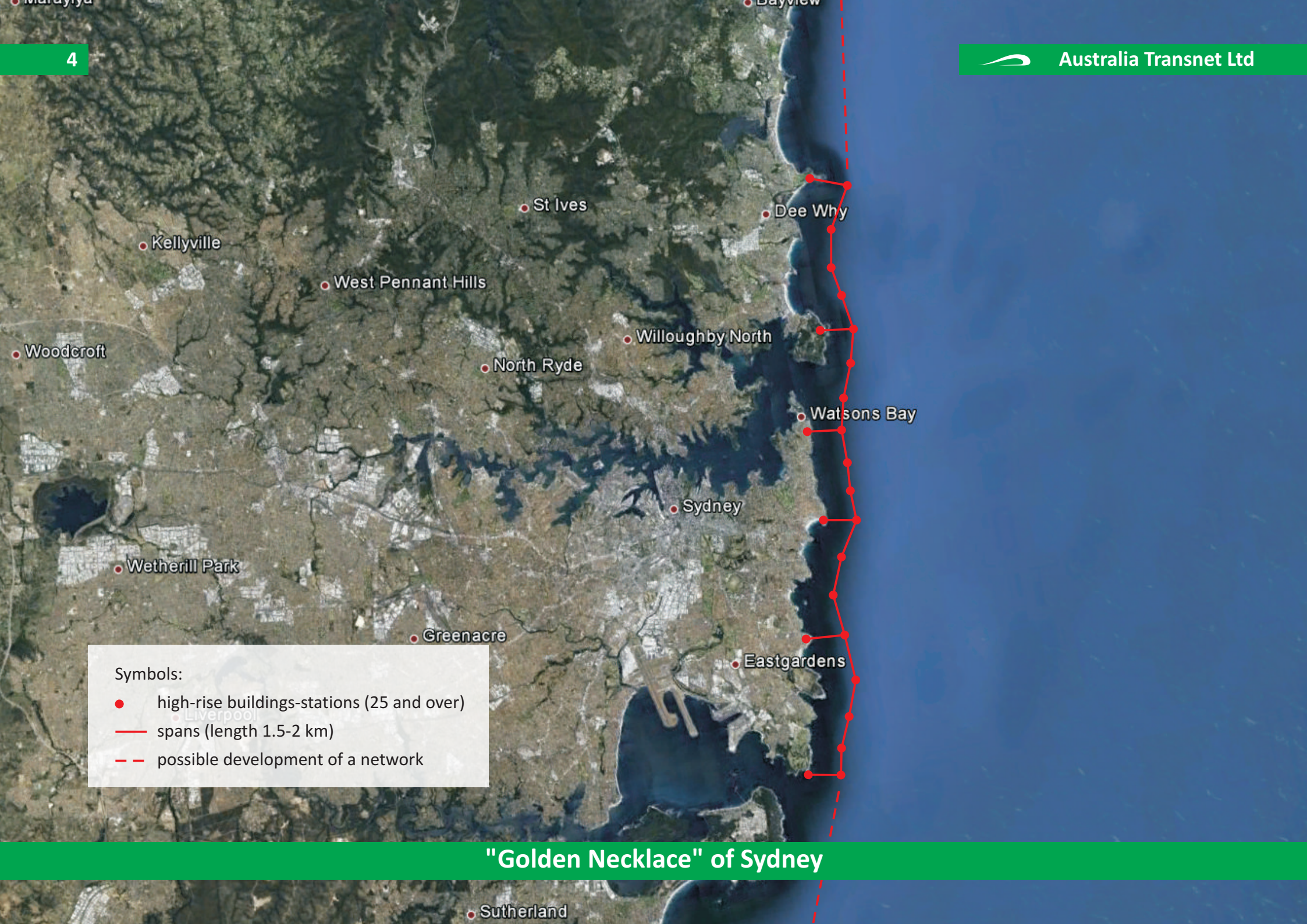
There are two variants of passenger stations location:

1. *Passenger station of suspended public transport* is located at the top of a high-rise building, or on the roof. Special rolling stock consists of one to three or more sections (suspended yunibus capacity of 25-75 or more passengers) and is suspended to two string rails. Track structure between adjacent stations, is made as a single-span, with no supporting pillars.

2. *Passenger station of mounted public transport* may be located at the bottom of each building, if necessary. It is a part of mounted transport type, placed at a height of 5-10 meters with spans of 30-50 meters. Special rolling stock consists of one to three or more sections (mounted yunibus capacity of 25-75 passengers and more) and is located on the top of two strings rails.

Track structure for mounted transport between adjacent buildings is carried out in accordance with the requirements for road and rail bridges and overpasses. If necessary, the slope of the way may reach up to 15%, and for a special performance mounted yunibus and string rail-way - 30 percent or more.

Minimum horizontal radius of the path (at stations) - 20 meters. Minimum horizontal and vertical radii of curvature of track structure on highway (and in the spans and piers), using the estimated speed shall be not less than 1,000 m.



"Golden Necklace" of Sydney



High-rise buildings of "Golden Necklace"



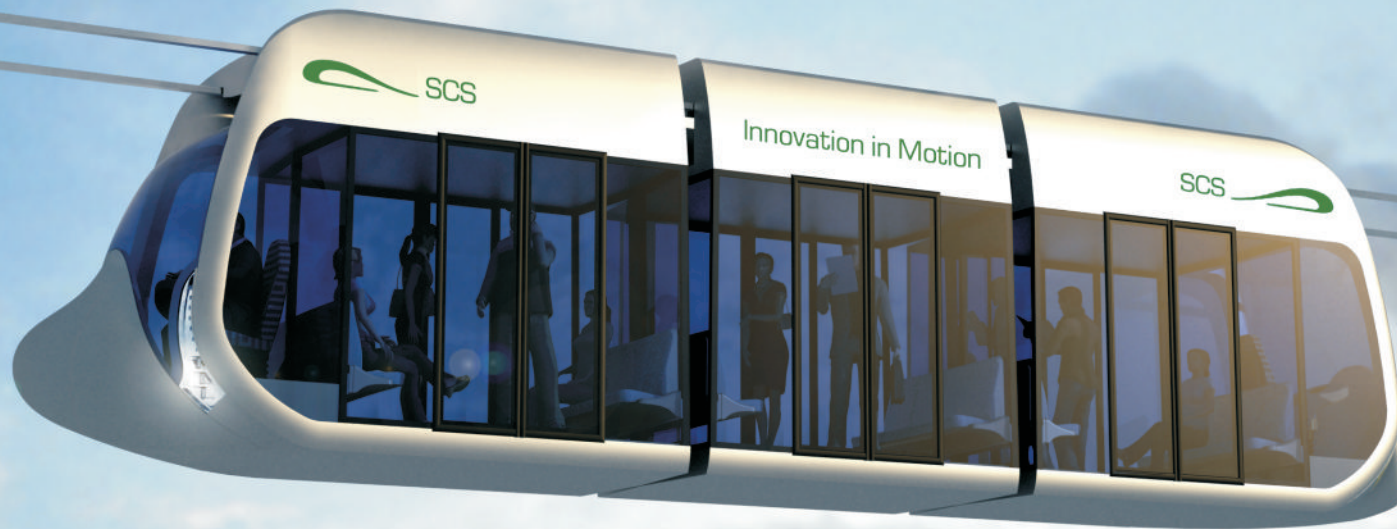
View of "Golden Necklace" island



View of "Golden Necklace" island



View of TSY suspended station



Suspended yunibus with a capacity of 75 passengers



Suspended yunibus over the flooded city



Mounted yunibus with a capacity of 75 passengers



TSY double-track trail over the flooded city



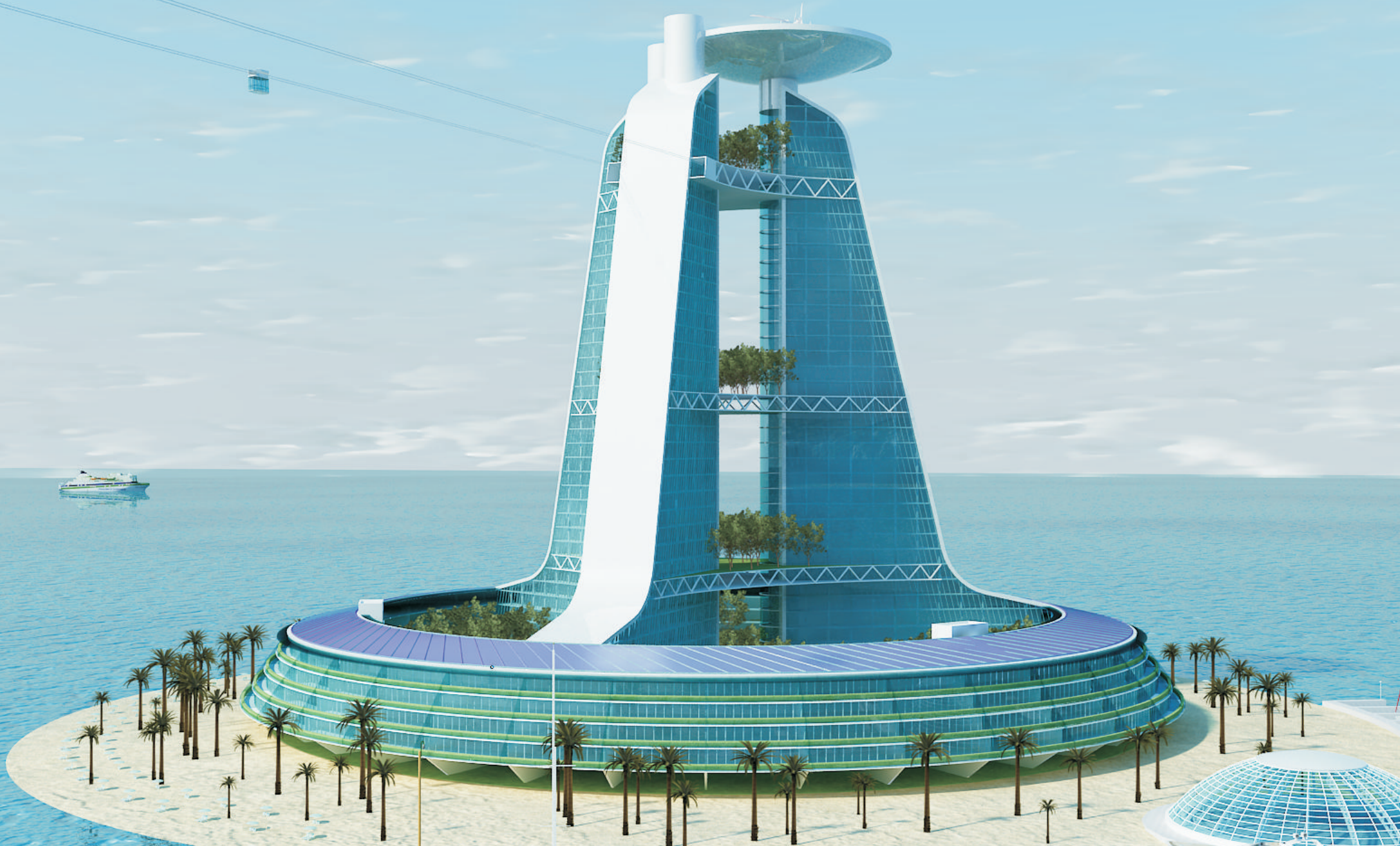
TSY route to the sea bay



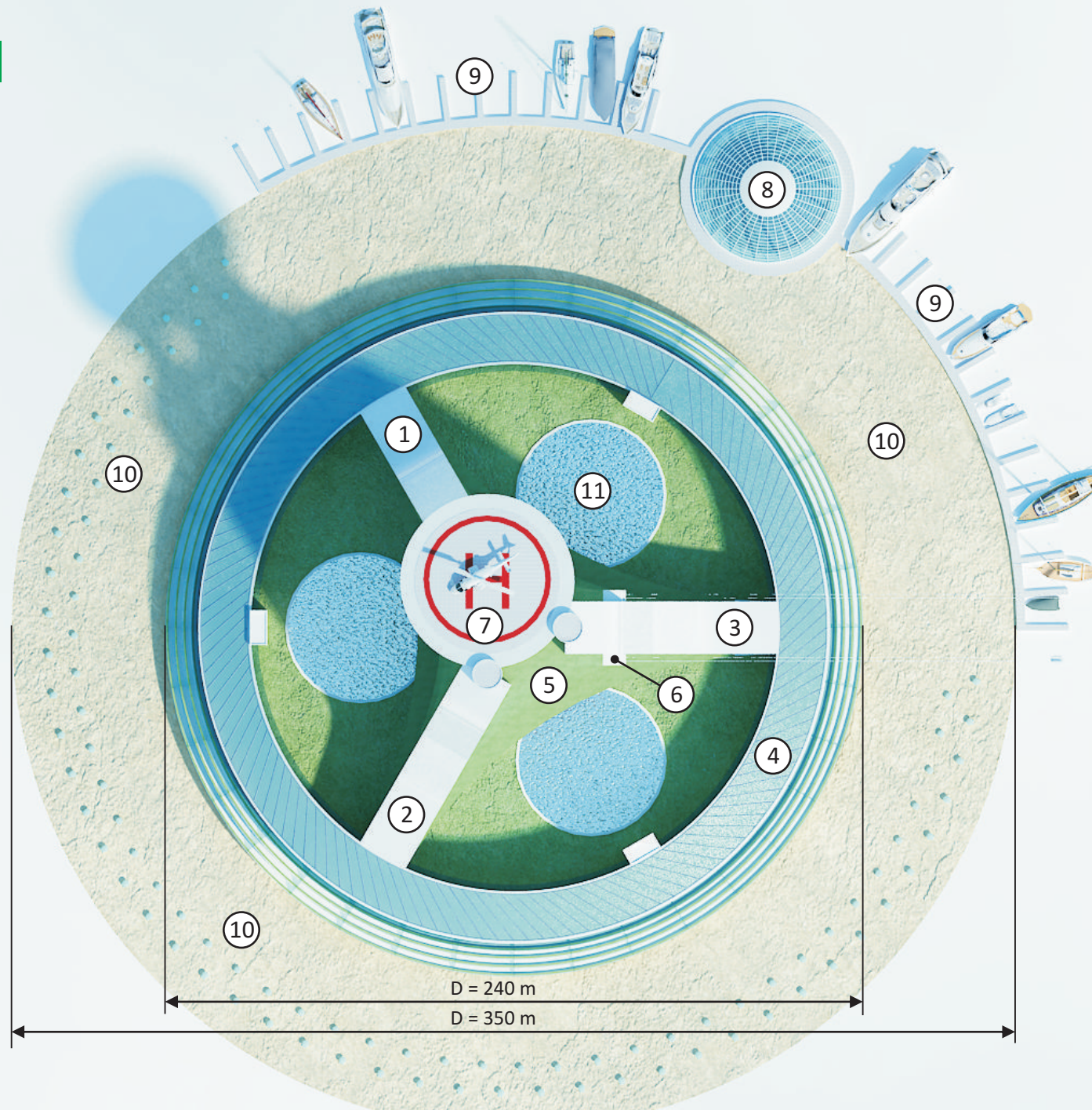
TSY urban track



TSY high-rise buildings-stations



General view of multi-residential living complex "Island"



Explication:

- 1 — high-rise building No. 1
- 2 — high-rise building No. 2
- 3 — high-rise building No. 3
- 4 — low-rise building No. 4
- 5 — operational roof of a technical storey
- 6 — TSY station
- 7 — helipad
- 8 — yacht-club
- 9 — mooring
- 10 — beach
- 11 — swimming-pool

Technical and economic indices:

Area of the site — 9 ha
 Built-up area — 40,000 m²
 Ground area — 135,000 m²

- building 1 — 26,000 m²
- building 2 — 26,000 m²
- building 3 — 26,000 m²
- building 4 — 56,000 m²
- winter gardens — 1,000 m²

Underground area — 23,000 m²
 Total area — 158,000 m²
 Diameter in plan — 240 m
 Maximal mark — 178 m

Cost of construction* — AUD 250 million
 Cost of design* — AUD 10 million

* It is approximate cost. The estimations were made on the basis of a simplified scheme not including the cost of the off-site works, the cost of land and activities associated with design and construction of a string transport system. The cost of TSY will amount to 5–7% of the total cost of the complex.

Aerial view of multi-residential living complex "Island"



Bird's-eye view of residential living complex "Oasis"

Legend:

- 1 — Multi-storey multifunctional building, combined with the TSY station
- 2 — Multisectional house with a variable number of storeys and exploited roof
- 3 — Areas with low-rise individual buildings
- 4 — Recreation zone

Techno-economic indicators:

Land area — 9 ha

Construction area — 15 000 m²

Total area — 40 000 m²

- position number 1 — 5 400 m²
- position number 2 — 28 600 m²
- position number 3 — 6 000 m²

Area of exploited roof — 11 000 m²

Area of the underground — for the calculation

Diameter — 340 m

Maximum mark — 50 m

Construction cost* — AUD 65 million

Design costs* — AUD 2.5 million

* Price is indicative only. This information was based on a simplified scheme without taking into account the cost of off-site works, land cost and cost of work related to the design and construction of the underground part of the string and the transport system. TSY cost is approximately 5–7% of the value of the complex.

Top view of residential living complex "Oasis"