Gondola 101:
What’s a Gondola and Why Do You Care?

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Agenda – Transit Ropeways

• Why might you care?
• What is a ropeway, really?
• What good are they?
• Implementation Issues
• Summary Comments
What is a ropeway?

A ropeway is a system that uses a cable to transport passengers or goods between two points, typically over a distance or elevation. It consists of several key components:

- **Stations**: Locations where the ropeway begins and ends, or where passengers can board and disembark.
- **Cable (Rope)**: The main component that carries the load and supports the movement of the cabins.
- **Cabin(s)**: Enclosed spaces for passengers or goods that move along the cable.
- **Tower(s)**: Support structures that hold up the cable, often spaced along the route to maintain the cable's tension and alignment.

The ropeway diagram illustrates these components, showing how they are interconnected to facilitate the movement of passengers or goods from point A to point B.
Historical Use
Historical Use
Urban Uses
Ropeway Types - Tramway
Ropeway Types - Gondola
Ropeway Types – 3S Gondola
Tramway or Gondola?

- Vehicles shuttle back and forth
- Generally larger cabins, 50-200 passengers
- Comparatively longer headways
- System Capacity: up to 2,000 pphpd (persons per hour per direction)

- Vehicles continuously circulate
- Generally smaller cabins, 8-15 passengers
- System Capacity: >3,000+ pphpd (persons per hour per direction)
Stations - Simple
Stations – Not So Simple
Angle Stations

Gondola with Angle Stations

- Angle stations may be used for passenger access or to just accommodate turns
- Angle stations allow for continuous ride, no need to change cabins
Transit Wonk Info

Capacities: 500 - 5000 PPHPD
Distances: 500’ – Few Miles
Headways: 8 seconds – Several Minutes
Avg. Speed: ~8-10 mph, incl. stations
Transit Opportunities

- Good Capacities
- Continuous Operation – No Schedule
- Circulator or Connector Systems
Connect the Dots

• Straight lines between stations
• May or may not bend at stations
• May or may not load/unload passengers at stations

• Work the alignment in 3 dimensions

Total travel time: 8:00 minutes
Roosevelt Island Tram
Portland Aerial Tram

By EncMstr - Own work, CC BY-SA 3.0,
https://commons.wikimedia.org/w/index.php?curid=2969865
Some Ridership Numbers

Roosevelt Island: 2.7M annually
Portland Tram: 1.4M annually
Medellin Line K: 12M annually
Rio de Janeiro: 4M annually
Benefits

• Non-displacing and additive
• No linear infrastructure = Low build effort
• Low build effort = Cheap and fast
Challenges

• Not a Panacea
• Air Rights
• Privacy Issues – Real and Perceived
• Straight Lines Between Stations
• “It’s a Toy”
Success Factors

• Simple Alignments
• Obstacles - Natural or Built
• Steady Stream of Passengers
• Connect Activity Centers
• Some Reason to Get (or stay) Out of Car
• Another Tool in the Toolbox
Thank you!

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