Financing of Railway – The Hong Kong Story

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Doshisha University Presentation December 14th, 2007

Railway Economics

- New railway provides mobility
- Alleviates poverty and reduces spatial inequality
- Foster growth by utilization of untapped resources

Railway Economics

Characteristics:

- Building cost high with long lifespan
- Running cost low
- Marginal cost pricing implies low fare
- Government subsidy required

Railway Economics

From another angle,

- key problem is externalities not readily captured
- Cannot line up the gainers to pay for the railway
- Private railway companies not common
- Although there are exceptions

Railway Economics

Historical example:

- building of railroads in the US to the western frontier in the late 19th century
- Entirely privately financed
- Exploration of gold and other natural resources
- Railroad used to install other utility infrastructure e.g. telegraph lines, later telephone lines
- Able to capture externalities to make it viable

Railway Economics

Lesson is:

A private railway must find ways to capture externalities to finance building cost

Hong Kong Model

- Mass Transit Railway (MTRC) is commercially viable
- Kowloon-Canton Railway (KCRC) is government-owned and largely self-financed
- Both companies engage extensively in property development -- externalties
- Model highly regarded by governments and World Bank

Background - MTRC

- MTRC started operation in 1979 in the urban core
- Station sites were used to build high-rise high-density residential towers
- Integrate living, shopping, and transport access
- Property development done jointly by railway company and private developers (profit-sharing)
- Initially a government-owned corporation operating on commercial principles
- Became a listed company in 2004 although the government still holds a majority share (76.67%)
- New extensions suffer low traffic volume

Background - KCRC

- KCRC operates a sub-urban network involving new towns in the New Territories
- Network connects to the border with Mainland China
- Electrified and dual-tracked in 1982
- Has always been government-owned
- New extensions in the eastern and western parts of the NT suffer low traffic volume
- Development sites available but halted
- Two railway companies merged since December 2007

2004 (HK$)	MTRC	KCRC
Fare revenue, $millions	5,932	4,213
Turnover, $millions **	8,351	4,976
Operating expenses, $mn	3,805	2,807
of which, staff costs, $mn	1,542	1,464
Operating profit from railway operations, $million	4,546	2,169
Profit on property developments, $millions	4,568	-
Profit attributable to shareholders, $millions	4,496	429
Passenger boardings, millions	834	475
Total assets, $millions	106,674	91,432
Debt, $millions	30,378	19,748
Employees, persons	6,555	5,874
of which, management	860	671
of which, operations	4,669	4,227

** consists of fare revenue plus station commercial revenue and rental income and freight services in the case of KCRC

Interpretation

- Heavy traffic (3.6 million trips per day, 1 in 2 residents is a passenger)
- Has modest operating profit
- return on fixed assets low (MTRC=4.26%, KCRC=2.37%)
- Will get lower in future (over-building)
- Substantial income from property development
- Increasing reliance on housing market
- KCRC halted housing projects in 2006-7 due to poor housing market

Regulatory Environment

- Transport system heavily regulated by government
- Fares and numbers of buses and taxis are fixed by government
- To avoid competition, government "coordinates" different modes by restricting routes of buses and fixing fare structure
- To maintain fare revenue, fares of railway not regulated

Summary of Experience

- Property development is key to commercial viability
- Both companies have narrow profit-making objective
- Past success attributed to overloaded roads, population growth, development of new towns, housing shortage

Key Question

- Is this model sustainable?
- Simple answer: Probably not.
- Yet, more railway being planned
- More housing development in the pipeline

Railway Housing Projects

- Total new residential units for sale in 2008 = 31,726 units
- New residential units developed by railway companies for sale in 2008 = 13,372 units
- Share of railway company = 42%
- The "Financing Railway by Housing" model is not sustainable in the long run

Reasons

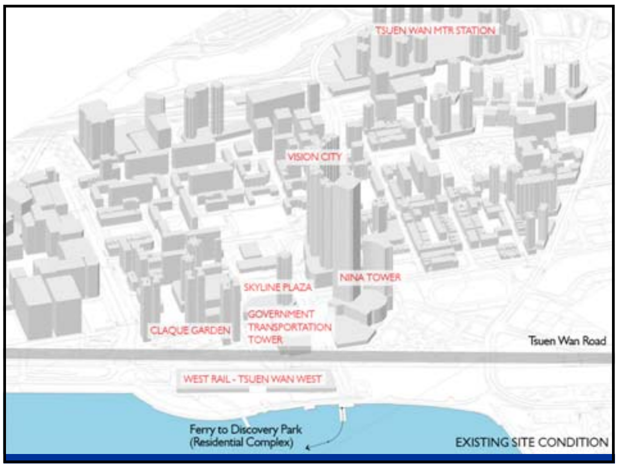
1. Population Growth Slowdown

- Ten years ago, population growth was 3%
- Now, the natural population growth is 0.7% (due to low birth rate)
- Net immigration rate is not high
- Slow growth in demand for transport
- Slow growth in demand for housing

Reasons

2. Isolation from Community

- No need for new town development
- New stations not part of town planning
- New stations not located and designed to integrate with inhabitants
- Located and designed to maximize their housing development value
- Poor pedestrian access to stations
- Low ridership



Reasons – Isolation from Community

The example shows:

- Station was located to obtain sea view, open space
- Far from existing community
- Poor access from local community

Reasons

3. Low Traffic Volume

- New railways suffer low ridership
- Diminishing return sets in for railway extensions
- Financing model led to twin-peak daily traffic pattern and low utilization
- Because passengers are mainly residents at the stations

Reasons

4. Government Wants More Railway

- Government wants continuous expansion of network
- because it creates employment for construction sector (political pressure)
- provides growth to minority shareholders

Reasons

5. Government Subsidies Required

- Planned injection of HK$6 billion cash for western extension of MTRC
- provision of station sites of KCRC to MTRC as a part of merger deal
- Pressure to raise fares will lead to public opposition
- Passengers are captivated for lack of substitutes

Reasons

6. Negative Impact on Neighbourhood:

- Reduce ventilation
- blocked view
- increased housing supply in district depressed prices of older housing
- Incentive is to create price premium at station-top housing vis-a-vis housing in the neighbourhood

Reasons

7. Slows Down Urban Renewal

- lower land value in the older parts of district
- Lack of incentive to redevelop housing
- Inhabitants rather move to station-top development
- Wasteful investment at the society level