KEEPING RAILWAYS 'ON TRACK' IN ISLAND TERRITORIES

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Abstract

This paper discusses the impact of railways on islands from an economic geography perspective. It argues that railways constitute a development logic that may work well on sprawling mainlands with industrialized economies and large enough populations; but are hard pressed to achieve viability in small service-driven island jurisdictions with critical mass constraints in terms of both potential passengers and freight. Although trains have been important icons of modernity, their contemporary fate on small islands seems to require that they disappear, be savagely scaled down, appropriately historicized, or otherwise somewhat accommodated in the service industry of these islands, by being transformed into quaint tourism products.

The Fallacy

The introduction of the railroad has been historically the most powerful single initiator of takeoffs. It was decisive in the United States, France, Germany, Canada, and Russia; it has played an extremely important part in the Swedish, Japanese, and other cases (Rostow, 1960: 55).

The railway has been a clear champion of modernity. It was, certainly in the 19th century, synonymous with development and the opening of erstwhile frontier sites to both settlement and industrialization. With its precise timetables, it also ushered in a new sense of time and distance. In modern times, thanks to new technology, its high speed versions connect commuters over huge distances. These are the latest icons of economic prowess, mechanical expertise, and even national resolve in beating elemental obstacles, in particular the tyranny of large distances or of obstructing material mass. Their imputed effects and towering importance in economic, political and nationalist terms can be seen to justify why they are often subsidized and supported by the public purse.

The report card is not all glowing, however. A railway system also requires enormous capital investments to set up; needs significant dedicated track-space and material; and calls for a "critical mass" of users—be they human, animal or freight—a minimal threshold of clientele to make it financially worthwhile. An insufficient take-up of offered services would lead quickly to debt and eventually insolvency. National pride could quickly be transformed to economic ruin and despair.

Minding the Train

This paper argues that a railway as transport infrastructure may be looked upon as a technology of aspired-to progress and development, but its requirements (rail network, take-up, maintenance, capital) cannot be maintained in the long-term by small island economies. Its competitiveness is fast eroded, unless heavily subsidized from other sources and thus it

exacerbates fiscal (and perhaps political) dependency. It appears that the only exceptions to this trend on small islands are cute and exotic, short-distance train services that essentially support the tourism industry and where the ride *per se* can be the attraction precisely *because* the technology is a bad fit to the island economy and is thus now essentially surplus infrastructure.

In this light, the railway presents itself as an antithesis to the specificity of small island life. It requires scale for setting up as well as for its operations, where small islands and their small markets may be found lacking. It thrives on transporting large numbers of passengers or high volume of cargo to and from discrete locations, where again small islands, with their small populations, poor manufacturing bases and service-oriented economies, cannot hope to provide any critical mass. An assessment of the fortunes of railways on different islands also suggests that there is a significant positive relationship between island size (in terms of both land area and population) and railway viability.

Whether in the real world or as metaphors, trains (along with such items as bridges, airplanes and automobiles) are seen as examples of an encroaching, evolving and intensifying connectedness. Trains have become icons of the relentless pressure of capitalist expansion and space-time compression, the material equivalent to the unremitting linkage of the world's people via information and communication technologies (*e.g.* Janelle, 1975; Harvey, 1990).

A train, like other infrastructure or transportation technologies, is a wonder of structural engineering and a complex feat of human endeavour. Many have welcomed and celebrated their construction as icons of prestige, miracles of engineering and instruments of progress (e.g. Schivelbusch, 1986). Completed projects have been sealed with the driving of golden spikes and frenzied media coverage. The significance of railways could become more salient when their service is withdrawn or suspended. Yet, railways do not lend themselves easily to personal (versus collective) mobility. Witness the failure of the Aramis Project: conceived by the French Government in the 1980s, it was meant to combine the efficiency of a subway train with the flexibility of the private automobile, but proved too complex and expensive to implement (Latour, 1996). Nor is one to assume that trains are an inherently good thing. Contrary to what most civil engineers might think (e.g. Sassi Perino & Faraggiana, 2004: 12), the forces that oppose railways (and other infrastructural creations) are not only to be found in the realm of physics. Environmental concerns excepted, scale issues would be among the key paramount considerations.

A train is a quintessential creation of the mainland expanse it is intended to subjugate. It is an effective and economic vehicle for the purpose of fording large distances with heavy or bulky cargos and many passengers. Rostow (1960) believed in the crucial development role of trains in supplying a faster, cheaper and more dependable transport service. Especially in developing countries, where the use of private transportation is still restricted to a narrow segment of the population and where good roads, or any roads at all, may be wishful thinking, train services are oversubscribed. In industrialized economies, where affluence has led to traffic gridlock, trains again afford opportunities for hassle-free transportation, especially to/from urban centres. And, in an age where environmental concerns are rapidly pushing their way up the political agenda, trains are increasingly seen as a form of transportation that merits support due to its lower per capita carbon "footprint"; and all the more so when operating on clean(er) technologies (e.g. Kieran, 2007).

While all this may be well and good, small islands are not necessarily geared in the same way. For most islands, their defined geography has meant that the sea is the obvious medium of transportation. Island societies are primarily *maritime* societies, and they would at times find it easier to connect and trade with cultures on other coasts and islands, than with communities that may exist inland on their same island or mainland. Huge island masses like Australia, Iceland and Greenland, with their coastal communities and unforgiving hinterlands,

would be best conceived as archipelagos connected by sea, certainly before the advent of the airplane or the construction of highways into their interior (e.g. Doumenge, 1998: 345). Evidence from the Caribbean suggests that mountains divide (even settlements on the same island) while the sea connects (even settlements on different islands) (Boomert, 2000; Bright, 2005). And so, historically, it is the boat, or the ferry, which ends up handling inter-island and island-mainland traffic and trade. Even today, while air transportation may be available, this may be too irregular and expensive to totally replace maritime travel and trade between islands, between islands and mainlands, or even within islands.

Tracking Island Railways

Yet, island cultures have looked enviously at how trains were spurring the development of mainland societies. Having long nurtured wishes to share in the spoils of progress, enthralled by the obligation to industrialize, and anxious to undo the tyranny of insularity and peripherality, island elites around the world, especially in the 19th century, have argued that developing a railway was simply an essential proposition for economic development and prosperity. They have lobbied for importing the technology-lock, stock and engine-to their own territories, expecting similar developmental 'take offs'. And they have often found politicians who were eager to listen. Moreover, island railways on: <u>Java</u> (land area 130,000 km²; population 120 million), <u>Japan</u> (land area 374,750 km²; population 126 million), and the United Kingdom (land area 241,590 km²; population 60.6 million) are large, well patronized and worked with advanced equipment. Japan's Bullet Trains (Shinkansen), like France's TGVs (tres grand vitesse), run at speeds of 300 km per hour or more. Britain, with its available capital, technical expertise and a sympathetic government, pioneered the construction of railways with the opening of the Stockton & Darlington Railway in 1825 and the Liverpool & Manchester Railway in 1830. By 1850, Britain already had over 10,400 km of rail track.

But the above seem to be the exceptions, rather than the rule. Even in moderately sized islands, railway services are restricted, as the following information attests:

The railway network in Sri Lanka (land area 64,740 km²; population 19 million) comprises nine lines radiating from Colombo, the capital, and which connect most major population and industrial centers. With services beginning in 1864, the railway was initially built to transport coffee and tea—the island's main export products—from the hill country to Colombo. The railway is now primarily engaged in the transport of passengers, especially commuters to and from Colombo, offering a vital service and reducing road congestion (Wickremeratne & Perera, 2007).

Consider Cuba (land area 110,860 km²; population 11.38 million). Cuba's rail network runs the length of the island, linking the main cities and towns. The island has one major railway from West to East, the No. 1 train from Santiago de Cuba to Havana, which takes precedence over all other trains. Born in 1837, Cuba's railway system, Latin America's oldest, initially connected Havana with the nearby community of Bejucal. Some 135 km of electric railway track was built in 1916 by the Hershey Chocolate Corporation to transport sugar from its mills but, due to a declining sugar market, the Hershey sugar mill closed in July 2002, and the future of this track remains uncertain. Today, Cuba has some 4,000 km of track and still moves some 60% of all ground cargo across the island, as well as many thousands of passengers annually. There are new efforts to restore the old American-made steam engines to attract tourists, but average citizens complain about low-quality service and chronic delays. A major problem facing the railway is a lack of investment to repair and maintain its infrastructure (Morrison, 2007; Vantuono, 1999).

The rail network in New Zealand (land area 268,200 km²; population 4.1 million) is extensive but over half the almost 4,000 km of line is for use of freight only. From 1993 to 2004, the rail network was privatized but has since been re-nationalized. Passenger rail services are run by private companies (Rail New Zealand, 2007; NRC, 2007).

In what became the Republic of Ireland (land area 68,890 km²; population 4.06 million), the first railway was opened in 1834. The system was reorganized with the emergence of the Irish Free State (now known as the Republic of Ireland) in 1921. The first line closures started in 1923. The Second World War proved costly for the rail system in the Republic. With the war effort, Britain could not spare coal for the neutral Republic of Ireland and so, Irish steam engines often tried running on poor quality Irish coal, wood, and even peat. The deteriorating quality and frequency of service discouraged rail travellers, whose numbers were also diminishing due to steadily increasing out-migration. By and large, only the main route network survived intact in the republic. The last public narrow gauge railway was closed in 1961. Without substantial investment over the 1970s and 1980s, upkeep and maintenance suffered, leading to a deteriorating quality of service and reliability. The Dublin Area Rapid Transit was a notable exception: it was electrified in 1984: a dramatic rise in passenger usage reverses many decades of decline in Dublin's suburban train service. An economic boom in the Republic since the 1990s, which also led to population growth, has led to vigorous reinvestment (Allen, 2003; RPSI, 2007).

Jamaica (land area 10,830 km²; population 2.65 million) actually pioneered rail transport in the British colonies, with the first line opening in 1845. The primary objective of this early phase was to facilitate the agrarian economy, especially the sugar plantations, through the efficient transport of freight. The initial optimism of the promoters was, however, soon dampened by the continued decline in the plantation economy and the absence of local capital for railway investment, leading to the nationalization of the operation in 1879. The Jamaica Government Railways eventually had 336 km of track, linking Montego Bay to Kingston. This is however no longer operational: by the 1970s, while the Jamaican government continued to finance and subsidize rail services, these were falling victim of a neglect of track, stock and buildings. Public rail transport services ceased operating in 1992. What limited track remains today is privately owned and is only used to transport bauxite (Satchel & Sampson, 2003).

Also in the Caribbean, the standard gauge railway system in Trinidad (land area 4,770 km²; population 990,000), boasted 240 km of track. It started operations in 1876 but closed in 1968. A small-gauge agricultural railroad was also shut down in the late 1990s. However, the Trinidad and Tobago government has announced plans recently for a US\$15-billion rapid rail project intended to ease the nation's traffic congestion. Research and feasibility studies are underway (PTSC, 2007)

Elsewhere, the story is an all too often repeated one of initial optimism and eventual closure due to bankruptcy. Where the railway—and/or its tracks and former trail—remain, the infrastructure is no longer addressing industrial development but services tourism, recreation and hospitality industries:

On Mauritius, (land area 2,030 km²; population 1.2 million) narrow gauge railways connected all the principal towns and sugar estates on the island, with some 120 miles of track, owned and worked by the government. The first railway was opened in 1864. The Mauritius Government Railway closed exactly 100 years later, in 1964 (Tourist Portal of Mauritius, 2007).

The railway in Malta (land area 316 km 2 ; population 400,000) was opened in 1883 and closed in 1931. The former railway station below the bastions of Mdina, the old capital, is now a restaurant, aptly named *L-Istazzjon* (The Station) (Bonnici & Cassar, 1992).

Early in 1908, Mark Twain, a frequent visitor to Bermuda (land area 53 km²; population 65,800), convinced another illustrious tourist, soon-to-be U.S. President Woodrow Wilson, to circulate a petition calling on the colonial government to ban the motor car and protect their island paradise. 111 visitors signed. Encouraged by the petition and the pressure of certain influential members, the Bermuda House of Assembly narrowly passed the Motor Car Act of 1908, banning all private motor vehicles from the island. Banned they would remain until 1946. Meanwhile, a perennial and growing problem facing tourist and Bermudian alike was the question of internal transportation. The Bermuda Railway was the means finally chosen to resolve the transport problem without ushering in the dreaded automobile. A 35 km-long railway served Bermuda, but only from 1931 to 1948. Today, the Railway Trail affords a convenient way to see Bermuda. Transport choices remain restricted on Bermuda today: a 'one-car-per- household' policy is in effect; and there are no cars for tourist hire (Bermuda Railway Pages, 2007).

The Government Railway in Cyprus (land area 9,240 km²; population 784,300) had 114 km of track connecting Famagusta to Nicosia and Morphou, and was mainly used for freight. It stopped operating in 1951 (Turner, 1979). The tracks, which literally cut across the divided island, act today as a site for the fostering of intercommunal links between Turkish and Greek Cypriots.

In the Pacific, the Fiji Islands (land area 18,270 km²; population 906,000) for a time offered the only free passenger train service in the world. The service was started in 1882. A small section of this remains as the centre-piece of the Coral Coast Railway, which uses two restored sugarcane locomotives for a variety of tours on narrow-gauge railroads through the cane fields, across bridges, and along the coast, up to Natadola Beach, on Viti Levu's Emerald Coast. Beyond that, Fiji's railway system is used only to transport cane to the sugar mills (Dyer & Hodge, 1988).

Only one line of an extensive steam railway system remains on the Isle of Man (land area 572 km²; population 75,450). Originally built in the late 1800's, the lines covered about 80 km. What remains now is a 22-km line, which runs from Douglas (the capital) to Port Erin. It was saved by a benefactor, the Marquis of Ailsa, who funded the continuation of the line after competition from other forms of transport threatened the line with closure in the 1960's. The line was taken over by the Manx Government in the 1970's to run as a tourist attraction, and still runs as the longest narrow gauge steam line in the British Isles. The trains date from 1874 and are maintained largely by local workshops and smithy. The Isle of Man has also kept the oldest of rail services going, with a horse drawn tram along the front in the capital, Douglas (Isle of Man Guide, 2007).

The only remaining working railway in the Channel Islands is to be found on Alderney (area 8 km²; population 2,400). The railway line was inaugurated in 1847 by Queen Victoria. The diesel engine pulls former London Underground carriages along a scenic coastal route before cutting across country towards a quarry and the nearby lighthouse. It is a popular attraction and claims to always run "bang on time" (Alderney Government, 2007; Alderney Tourism, 2007).

The story could be different in the case of sub-national island jurisdictions which can call upon capital investment (or bail outs) from a larger, metropolitan state.

Take Réunion (land area 2,517 km²; population 777,000), an overseas department of France (*départment d'outre mer*), located in the Indian Ocean. A previous railway, built to facilitate the export of sugar, was inaugurated in 1882; but the service was progressively cut back in stages and stopped in 1976. However, in 2004, the Réunion Government decided to build a 70-km railway to link St. Benoit, St. Denis, and St. Paul because of increasing road congestion. The railway, to be completed by 2012, will be operated by a fleet of 100km/h tram-trains. A freight service to the port is also envisaged (International Railway Journal, 2004).

Another sub-national island territory is Mallorca, in the Spanish Balearics (land area 3,640 km²; population 770,820). The island had an extensive railway system, focused on the capital, Palma de Mallorca, which eventually was wound down as a result of the usual concerns. However, a narrow gauge line (the Soller Railway) was kept up to the mountains as a "Scenic West" tourist run; and a standard gauge line was kept for the (less scenic) Palma to Inca (the second city) route for use by commuters. Now, the line to Inca has been upgraded and much of the rest of the system has been rebuilt and is fairly extensive again, even though the island has motorways too (Barnabe, 2003).

The story is different again in Gotland, Sweden (land area 3,145 km²; population 57,300). The first railway line opened in 1878. Three different companies opened lines but, due to declining economic fortunes, all three were nationalized in 1947, and subsequently closed, the latest to do so in 1964. Competition from cars and buses and the escalating costs of investment are amongst the most important reasons for these closures, along with a (then) declining population. Gotland today boasts its own railroad museum (Gotland Train Association, 2007).

Discussion

Changes in the nature and containerization of freight, in the distribution of commuter populations, and in the technology of transportation proper, have had their impacts on railroads, be they on islands or on mainlands. Various continental railway systems have been pared down, but not closed down. Yet, while there may be exceptions, there seems to be a clear relationship between population size and the viability of railways on island jurisdictions. Many small island states have never entertained railway systems to the point of actually building them; but for those who have, many have found it impossible to support the capital and running costs of a railway intended mainly for the transport of passengers and freight. Where it survives in these and similar locations, it has been cut down to short sections whose main purpose is to provide pleasure rides to visitors and tourists. In most such small islands, the only residue of the railway's history and operations is typically parts of the former track (transformed into a walking, hiking or cycling trail), the occasional museum (housing locomotives as historical artifacts) or restaurant (being a refurbished railway station).

A more serious commentary must address the relationship of the railway as modernizing technology to the effects on the convergence of public policy and economic development. Convergence theorists (starting with Kerr et al., 1960) would argue that railways constitute technologies that radically transform societies: not only by revolutionizing the foundational concepts of time and space (making places smaller and getting people closer), and by fostering the development of a unionized and skilled proletarian workforce, but also because they are premised on a centralized model of growth that requires large amounts of capital, creating "common characteristics and imperatives" which in turn facilitate an inexorable economic and political convergence (ibid). Indeed, practically all railways have gone through consolidation, and many small island railways have survived, or came into being, as

monopolies. Island elites, and subsequently the governments or foreign corporations who bailed them out, found themselves responsible for a massive infrastructure, and thus powerful economic players in their own right. However, the manner in which economic policy is actuated remains strongly driven by the political culture of the respective jurisdiction, and cannot be seen as a mere function of technological determinism: for example, the railway systems that emerged in the United States, France and Britain were, and continue to be, driven by their respective ideologies: market forces overseen by a federal government in the US; a powerful central state in France; and elite individuals in Britain (Dobbin, 1994).

Such ideological and structural determinants have not prevented the transformation of railroads in small islands however. Rail companies, often already nationalized, have sought to stabilize their revenues by opposing the development of extensive road networks; or by buying into bus and road companies to diversify their portfolio (and somehow manage or control the competition). Moreover, transforming former rail sites to trails (in the face of opposition from the land owners who had their land expropriated in the first place) has been a welcome tourism, cycling and recreational boon since these rails would cross-cross across most of the well-traveled areas of each respective island, and usually with only modest angles of inclination. The impact of the railway on reducing distance and time is thus somehow maintained.

Finally, it would be interesting to look at commercial airports, ferry services and even automobile use on islands, using the template developed in this paper. There are critical mass constraints that apply to all three modes of transportation, though at obviously different levels of use. But island jurisdictions may today be experiencing pressures to expand their road, air and ferry services that could prove very similar to those same pressures that led to the setting up of railways decades ago. Are such infrastructures, even if purportedly providing a public service, likely to experience a similar rise and fall in their economic fortunes? Is there a 'cut off' point below which such infrastructure should not be provided, on the basis of some economic logic? And would these investments end up themselves also as quaint, historical artifacts one of these days? Of course, given the transport paradigm we are living in today, it may be difficult to conceive of an island without, say, automobiles. Yet, such islands *do* exist: they would include Gotts Island (Maine, USA); La Digue (Seychelles); Tristan da Cunha; Hiddensee (Germany); Sark (Channel Islands), Cheung Chau and Lama (Hong Kong, China). Perhaps an island seeking to become modern without a proper rail service would have been just as inconceivable in the 19th century.

Epilogue

Under the influence of . . . stories of the new steam locomotives that had become the rage in Europe, the Commandant, increasingly frustrated in his desire to be seen as a man of destiny had . . . decreed that a great train station was to be built.

It was a huge undertaking. . . . All this in the face of those who quietly expressed the timid doubt that a train station on an island in the middle of a wilderness far off the coast of a nowhere land so blighted it existed only as a gaol was unlikely ever to be either the terminus or point of departure for any traveler (Flanagan, 2001: 165–166).

Sarah Island is Tasmania's oldest convict settlement, set up in 1821, and is today part of the UNESCO recognized Tasmanian wilderness World Heritage Site (PWST, 2005). The very idea of a railway on an island so remote, so peripheral, and itself so small (less than 1 km long and less than 0.5 km wide) is intended by the author to demonstrate the hopeless eccentricity of the whole project which - in Flanagan's admirable work of part-fact, part-fiction – is indeed completed as a hallmark of sheer monumental folly.

The practice of treating islands as microcosms, even laboratories, of much larger mainlands has a long pedigree (e.g. Baldacchino, 2007). Yet, mainland inspired and induced infrastructures need not be the best form of investment on islands, especially *small* islands. The history of industrial capitalism provides ample evidence of this form of technological determinism, and its limitations; but is it enough to sway ambitious developers and politicians, keen to be seen to patronize island peripheries (and their voters) with mega-projects?

It appears today that the recognition of train obsolescence on small islands and their closure is a coming-to-terms with the reality of a service-driven economy. A new "mindscape" (e.g. Ronström, 2003: 5) may be creeping in, one where trains—if they are to feature at all—are reinvented as quaint tourism products; historicized as objects out of time or from a romanticized past; their capital legacy—such as locomotives, carriages and stations—is conserved, museified, and thus given a new life, meaning and function (e.g. Macdonald, 1996; Prösler, 1996). They are also exoticized as charming and therefore inviting a different type of consumption. In a reversal of meanings, their obvious dysfunctionality in the island context becomes the key source of their appeal, with clients paying for the exotic experience of the ride itself, and not so much for the act of transportation from one location to another (as would be the case in more 'normal' surroundings). Moreover, when miniaturized (in terms of gauge, scope or actual size), trains even become stronger "metaphors for interiority" (Stewart, 1993), fuelling that sense of management and control via a totalizing consumption and an obsession to claim that also attracts visitors to islands (e.g. Redfield, 2000: 12; Baldacchino, 2007: 3-4). Indeed, the tourist train on Alderney Island can even be chartered.

These are, it seems, the ways to keep the railways 'on track' in small island territories. They otherwise represent a particular industrial and continental logic, if not also a particular 'time discipline' (e.g. Thompson, 1967) that jars with the reality of small island life. Railway systems easily join horse drawn carriages, vintage cars, fortified towns and World War II fighter planes as exemplars of redundant technologies, prized for their appearance and their link to a distant and nostalgic past (e.g. Lowenthal, 1986), rather than their substance and functionality. Moreover, on small islands, railways - where they still exist - offer short fun rides; and—where they don't—nature trails and industrial archeology, but in both cases mainly with a view to connect with the hedonistic pursuits of tourists, not locals.

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