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NEW STATIONS AND TOD IN THREE UNITED STATES RAIL CORRIDORS

Introduction and political and territorial context

Since 2008, the United States (US) has undergone a period of rail renewal marked by significant reinvestment in the sector and by a succession of projects to renovate or build new central or peripheral stations, which in certain cases also entail major developments to the districts around them. In April 2009, President Obama announced an initiative to bring the US into the high-speed era. Ten corridors were designated to receive federal funds, on top of funding from certain States, including the California Corridor and the Northeast Corridor (Peterman et al., 2013; Ruggeri and Schorung, 2017).

This new dynamic also affects stations and station districts on interurban lines. Stations are a multiscale issue affecting a wide variety of entities – institutional players at federal and state level, operators, counties, municipalities, specific operational structures – which may have differing objectives (Urena et al., 2009; Facchinetti-Mannone and Richer, 2011):

1. Opening up and providing access to a territory;
2. Improving the performances of the transit networks;
3. Creating or reshaping a territory’s intermodal connections;
4. Contributing to a city’s brand image and attractiveness.

The arrival of high-speed rail can boost the construction or renovation of ambitious multimodal hubs with sometimes impressive architectural qualities. It can prompt the construction of a new station, or the reuse and modernisation of an existing city centre station. A centrally located station plays an essential role in maintaining metropolitan centrality for housing and retail, and also as a business centre (Facchinetti-Mannone and Richer, 2011). In addition, large-scale station projects generally entail discussion and planning for the development of their surrounding districts. Operations to develop station districts can be characterised in different ways: in terms of the principles adopted (transit-oriented development, functional mix and social mix); in terms of the objectives of the operation (residential development, new retail spaces, business district and a flagship project as part of a territorial marketing policy, etc.); and in terms of the content of the project (office buildings, housing units, luxury residential or affordable housing, shops, open public spaces and green areas).

The aim of this communication is to contribute to the scientific literature on transit-oriented development (TOD) by studying so-called TOD projects in two interurban rail corridors in the US. These different projects are located within mature urban fabrics, in some cases very dense and relatively well-connected to urban and regional transit networks. However, their geographical location causes a number of problems that are inherent to central city areas: scarcity and cost of land, pressure in the real estate market, congestion on transport systems, and high demand for housing. This investigation is founded on three hypotheses:

1. Favourable global conditions have led to the emergence of ambitious projects for city centre station neighbourhoods which will transform the urban landscape;
(2) the operations studied, although they do not all apply the principles of TOD or match the definition of TOD, are helping to shape a vision of urban sustainability;
(3) the new city centre station districts primarily use iconic buildings in order to meet priorities relating to economics and attractiveness.

The communication draws on the analysis of one central station district project in each of three interurban rail corridors:

(1) The station and station area in San Francisco (Salesforce Transit Center, which is part of the San Francisco-San Jose rail corridor). The current operator of this corridor is Caltrain, and after electrification and modernisation, it will be used by the California High-Speed Rail Authority's future high-speed rail service;
(2) Miami Central Station and its district, which is the departure point for a new, entirely private rail service (Brightline), which opened its first section from Miami to West Palm Beach in spring 2018. The second phase, running to Orlando International Airport, is set to open in 2020.

The research is based on analysis of grey literature, documentation of the projects and the websites of the actors responsible for them, and of press stories about these operations.

**Theoretical framework and state-of-the-art**

It is widely recognised that the development of a dense urban fabric requires coordination between transport and urban planning. The compact city is characterised by two main features – high density and continuous urbanisation – and one central objective, economy of space at both the interurban and intraurban scales (Newman et al., 1995; Newman and Kenworthy, 1996). The idea of connected or even integrated public transport and planning policies became widespread in the 1990s, which saw a complete paradigm shift towards the desirability of density (Maulat, 2014). In the US, Canada and Australia, this idea spread through the concept of TOD, backed by two related movements in the domain of urban planning – New Urbanism and Smart Growth (Renne and Wells, 2004; Ouellet, 2006; Bernick and Cervero, 1997; Cervero and Kockelman, 1997; Cervero et al., 2002; Currie, 2006; Quinn, 2006; Curtis, 2008, 2012; Atkinson-Palombo and Kuby, 2011; Duncan, 2011; Renne, 2011; Bertolini, Curtis and Renne, 2012; Dorsey and Mukler, 2013; Nasri and Zhang, 2014).

The most widely accepted definition of TOD is a form of urban development that contains a mix of urban functions and is densely clustered around stations, to encourage the use of public transport and other alternatives to the car (Cervero, 2012). Cervero (2012) stresses that TOD does not just mean proximity to a transport hub, but a genuine orientation towards transport system access points, in particular through close attention to public spaces, parks and foot access.

Projects based on this concept proliferated in the 1990s and 2000s. The construction of the Bay Area Rapid Transit (BART), designed to shape San Francisco Bay into a multi-centred metropolitan system, in particular by the large-scale coordination of transport, land use and planning, is the most complete embodiment of the concept (Cervero and Landis, 1997). Other iconic examples have emerged in North America: Toronto with its metro, or Arlington County and the metropolitan region of Washington D.C. with Metrorail (Leyssens, 2011). In North America, in the last two decades and more, most metropolitan regions have relied on TOD to coordinate transport and planning, despite slight differences in their conception of TOD (Cervero et al., 2004; Curtis et al., 2009; Dittmar and Ohi, 2004; Douay and Roy-Bailargeon, 2015). Moreover, a distinction has gradually emerged TOD, transit-adjacent development (TAD), i.e. development that is geographically close to public transport, but not structured around it, and transit-related development (TRD), which refers to development operations that exploit the presence of a public transport hub. Most
so-called TOD districts in the US are in reality closer to TAD (Lund et al., 2006; Renne, 2009). As a result, the effects of TOD on travel modes at the urban and regional scale, on the use of public transport, and on the production of the city in the US, remain relatively limited.

Starting with the concept of TOD, a limited number of scientific studies have looked at the question of these projects in city centres (Hess and Lombardi, 2004), in marked contrast with the significant number of publications dealing with TOD projects in suburban and periurban areas, like those of Cervero (1994, 1996, 2007) on San Francisco Bay Area, or Goetz (2013) and Goetz and Ratner (2013) on Denver. This chapter will only focus on intercity rail corridors and on central stations located in central-business districts because the primary focus of TOD projects throughout the US has been on suburban stations along commuter and regional rail corridors. This trend is one of the many signs of redevelopment and renewal of American downtown areas.

These different rail projects involve the construction of new multimodal hubs, designed to meet a threefold objective:

1. to interconnect the different transit networks in order to encourage the population to use them more;
2. to be a starting point for larger operations to upgrade station districts and develop a denser fabric;
3. to contribute to the profile of the city with iconic buildings that will reinforce its image of modernity and economic dynamism through real estate and architecture.

Findings

The San Francisco-San Jose rail corridor: laboratory for city centre TOD projects

Context: the ambitious project for a Californian high-speed rail line

The Californian project aims to build a dedicated new high-speed train infrastructure linking Sacramento in the north to San Diego in the south, via San Francisco and Los Angeles, making a network more than 1200 km long with 14 intermediate stops. The construction is in several stages, beginning with the section in the Central Valley between Madera and Bakersfield, while the aim of the second stage, “Bay to Basin”, is to make the link with the central section, San Jose then San Francisco, by electrifying and upgrading the Caltrain regional line (CAHSRA, 2011, 2018; Ruggeri, 2015; Schorung, 2017). Apart from the staged approach, running from 2017 to 2040, the Californian project is based on the strategy of “blending” in order to establish a seamless network and provide the best possible interconnection between the different rail networks: the interurban lines operated by Amtrak, Caltrain and BART. Organised by a dedicated authority (California High-Speed Rail Authority), the project includes the renovation, enlargement or construction of stations along the route. Twelve of these – including San Francisco – will be new stations, whereas six cities plan to refurbish an existing central station (Loukaitou-Sideris, 2010, 2013; Ruggeri, 2015).

Transbay Transit Center District: future “Grand Central Station of the West” and a central hub between Downtown and SoMA

“The Transbay Transit Center Project: the transit-oriented development that will transform downtown San Francisco and the Bay Area’s regional transport system” (TJPA, 2013, p. 1): this opening sentence to the master plan for the Salesforce Transit Center clearly states the project’s ambition and its goal of urban transformation. The operation consists of three key elements: the new Transbay Terminal multimodal hub; the conversion and redevelopment of vacant or underused land sections belonging to the State of California; and the creation of a new neighbourhood near Downtown, described as “walkable, mixed-use, transit-
oriented with parks (. . . ) and urban amenities” (TJPA, 2013, pp. 2-3). The Transbay terminal will give San Francisco a central station, while at present the city only has a Caltrain station east of the South of Market (SoMA) district. This is a $4.5 billion project with a five-storey, Leadership in Energy and Environmental Design (LEED) Gold Certified eco-building, which will connect eleven transport networks together, including the future high-speed line. This imposing building, which extends horizontally over several blocks, will house new retail spaces and its roof will be a 5.4 acre urban park (see Figure 2.1). The Transit Center has opened for a few weeks before being closed down due to a cracked steel beam.

The new central station project is accompanied by a project to develop the station district, whose backers claim to apply TOD principles. This future station neighbourhood is covered by two plans: the Transbay Redevelopment Plan (2005) and the Transit Center District Plan (2012). The goal is to “create a high-density, mixed-use, transit-oriented neighborhood” (TJPA, 2013, p. 6) with the help of two instruments: the establishment of a specific zoning scheme, which allows the construction of a limited number of tall and very tall buildings around the Terminal; and the reuse of parcels of public land to build 3000 residential units, 35 per cent of which include affordable housing. The ultimate objective of these two development plans is as follows:

1. six million square feet (sq. ft) of offices around the Transit Terminal;
2. 4500 residential units in all, 1300 of them affordable;
3. 100 000 sq. ft of retail space in the Terminal, and a further 150 000 in the surrounding district;
4. almost 1000 additional hotel rooms;
5. more than 10 acres of new public parks or wooded areas;
6. redevelopment of the sidewalks in the station district and the construction of a network of cycleways (SFPD, 2012).

The Transit Center District is located in the retail, business and tourist heart of San Francisco, with Downtown and the Financial District to the west, and to the east the SoMA district, which is home to a large number of cultural institutions as well as a cluster of new towers intended for large companies or top-end residential space. In the last few years, this district has metamorphosed. The Transit Center District and the Salesforce Transit Center are therefore perceived by the municipality and private developers as a means to reinforce the centrality of South of Market, and also as a way to redraw the San Francisco skyline (SFRA, 2005, 2009). Indeed, the soon to be completed Transbay Transit Tower – designed by the architect César Pelli – will be the city’s tallest skyscraper providing direct access via a walkway to the terminal’s landscaped roof. This station district is designed to reshape and enhance the appeal of this part of the city through densification and the construction of iconic skyscrapers near the station, but also to generate real estate value, a percentage of which will be used to finance the station and the rail link between the Caltrain station and the new terminal (TJPA, 2018). The San Francisco Planning Department wants this project to be a model of an operation that meets the criteria of the sustainable city and transit-oriented development.

**The Brightline private line in Florida: a station district to consolidate corporate activities**

*Context: the All Aboard Florida project as a new structural axis in Florida*

This is the private project that has made the most progress since work began in mid-2015 and the first phase was inaugurated at the beginning of 2018. It is being developed by Florida East Coast Industries-LLC (FECI), a big real estate company that owns the rail infrastructure between the centre of Florida and Miami. This is a higher-speed interurban rail scheme that services four cities – Miami, Fort Lauderdale, West Palm
Beach and Orlando – using the company’s existing lines. A short section remains to be built to serve Orlando International Airport. This project is an innovative model for the development of a rail service, in which the infrastructure is owned and the service is operated by a private enterprise.

To fund this project, FECI is gambling on real estate development and the capture of real estate and land value, a different possible strategy for reinvesting in the rail mode. Miami’s new station would both act as a hub between this interurban line and the public transit networks, and be one element in an impressive real estate operation. The new stations (Miami, Fort Lauderdale, West Palm Beach) are seen as the source of sustainability and viability for the business model of the future line. The future Orlando station is the only one where no development project is planned for the surrounding district, since it will be located near Orlando International Airport’s new terminal (All Aboard Florida, 2018).

**MiamiCentral: a transit-related development that capitalises on the windfall of a new central station in Miami**

Miami Central Station is located in downtown Miami near its main business centre and the waterfront, one of the city’s main tourist attractions. This real estate and development operation extends over six blocks and consists of several components: the station terminal, which will accommodate three rail services (Brightline, Metrorail, Metromover) and contain a big retail space, two high-rise residential buildings and two office blocks called 2MiamiCentral and 3MiamiCentral (Brightline Project, 2018). This cluster will house 800 residential units, 180,000 sq. ft of shops, including Central Fare which will be the city’s largest food hall with 50,000 sq. ft of retail space, and 300,000 sq. ft of offices. It has been announced that the residential units will not be sold on the luxury real estate market (Gardner, 2015). In addition, All Aboard Florida is in the process of planning One MiamiCentral, a tower where construction work was yet to begin at the beginning of 2018. This will be an iconic, 1000 foot tower, which will become part of the skyline of Miami Downtown and will contain 280 luxury residential units, 250 hotel rooms, and 600,000 sq. ft of office space (THN Staff, 2015).

All Aboard Florida’s new stations are showcases for this new passenger rail service, even in Fort Lauderdale and West Palm Beach where the scale of the projects is smaller. Miami station is clearly one of the drivers of the company’s commercial and financial strategy, which relies on increasing land value and developing real estate both above the rail terminal and in the immediate environment, in order to generate additional revenues to finance the project as a whole. The strong architectural emphasis is intended to promote the project and make it a standout landmark in the city. It should not be forgotten that Miami has no city centre station, only a small Amtrak station north-east of Downtown, and a multimodal hub – opened in 2007 – next to the airport. The use of the TOD concept in the company’s advertising and in the few planning documents available is in this case a marketing ploy. In fact, this project is more a case of TRD, in other words its backers are taking advantage of the new windfall opportunities offered by the construction of a new station, with no clear and considered effort to apply the principles of transit-oriented development and to contribute to a more sustainable mode of city production.

**Conclusion**

The backers of the station district projects studied here claim to be applying the concept of TOD, together with an approach to urban development based on “smart growth” and sustainability. The different projects and their fundamental goals can be examined and demarcated in the light of TOD principles (Transit Oriented Development Institute, 2018). iii

The Salesforce Transit Center (San Francisco) project broadly reflects the application of TOD criteria. Their fundamental objectives are the same, with a primary emphasis on mobilities and on developing the potential of a big station as a future metropolitan and regional scale multimodal hub, and on sustainable development
with the development of a “green” district that facilitates walking and cycling and on public spaces that bring nature back into the city. The economic dimension is obviously significant, since these projects aim to turn the new station districts into attractive commercial and residential hubs, a showcase for metropolitan dynamism – as evidenced by the presence of iconic and architecturally distinctive buildings – and they also contribute through certain financial mechanisms to the funding of the transport project. The Miami Central project, on the other hand, is primarily a case of TRD, since it fails to meet a number of the criteria set out above. As a private project, its primary focus is to generate real estate value by piggybacking on the opportunity presented by the construction of a new multimodal hub in the immediate vicinity of Miami’s main business and tourist district.

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*a* The Transbay Transit Center in SF has been renamed as an outcome of sponsoring with Salesforce. The station is now called Salesforce Transit Center.

*b* The project is headed by a dedicated public agency, the Transbay Joint Powers Authority (TJPA), which has been vested with the prerogatives of the city and County of San Francisco, and must collaborate with the different agencies or transport authorities involved – Caltrans, Caltrain, CAHSRA, AC Transit, Peninsula Corridor Joint Powers Board.

*c* To see the ten TOD principles identified by the Transit Oriented Development Institute (US planning organization working to promote TOD) : http://www.tod.org/placemaking/principles.html.