

A proposal for recovering abandoned grounds in urban areas – Case study of historic railway installations in the City of Los Ángeles, Chile

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Abstract. Chilean rail transport system is administered by EFE (Empresa de los Ferrocarriles del Estado). Since it is foundation in 1884 it has taken control of a rail network that formerly belonged to private companies, from Iquique to Puerto Montt. Nevertheless, the main reason why railway exists in Chile can be found in mining and transport of goods. Passenger rail can only be found where the necessity exists to connect regions and their capitals. Therefore lots of tracks have been lost due to economic reasons. Los Ángeles is only one example for disappearance of railway. A negative side effect is that areas where railway installations once were present, nowadays are abandoned. In general they become a focus for crime and drug scene or illegal rubbish deposit. This is why our project aims to recover these grounds and to give them a proper usage. We propose the installation of park areas where inhabitants can revive railway history, bike-ways along the former tracks, and other features that might be of interest for people visiting the city of Los Ángeles.

Keywords: Railway, Planning, Society

1. Introduction

The Chilean railway system has a long tradition (Thomson & Angerstein 2002). In 1849 the government made the decision to initiate a traffic project based on a railway network that would allow mining in the North grow at a faster rate. The project not only served this purpose, but also allowed to install tracks in great parts of the Chilean central and southern regions (UN 2006). Nevertheless, due to the economic boom that was a result of Niter exploitation, there were built too many tracks, in particular in the south. Large part of the income generated in the North was invested

in the construction of tracks in central and southern Chile (Simms 2002). When the demand for Niter decreased (from 1913 onwards), the huge costs for repair and maintenance had to be covered by different state incomes.

In case of the municipality of Los Ángeles, the sugar industry became very important for the development of the railway communication network. By 1953 it had completely been established in the city, using the tracks for transport of raw material and products elaborated by this industry. Since then, the city of Los Ángeles was lifted in a major nationwide competitive level. As its social economic impact increased, railway became accessible to passengers.

In the 1970s, due to increasing competition from road and air traffic, public investments in railway became unprofitable. In contrast to travels realized by train, tickets became cheaper and travel times shortened and therefore the passenger demand decreased significantly. First, passenger service stopped and only freight service was maintained. Nevertheless, without proper maintenance of the system, tracks were declared unsafe and the municipal administration decided to stop freight transport, too.

In 2006, the last freight train in the city of Los Ángeles was operated. Since then the tracks were abandoned, destroyed, stolen or they simply weathered. Therefore in 2008, the administration proceeded to lift the last remaining sections of the route, within the urbanized area of Los Ángeles.

As these areas formerly occupied by the railway and its stations were abandoned, in the ensuing years they became hotbeds of crime and drug addiction.

Therefore we developed a proposal, which allows to recover these urban spaces to get rid of crime and to recall in mind the glorious days of railway in the city of Los Ángeles as the younger generation in general does not understand why railway is so important for the sustainable development of a city or even a country.

2. Methodology

2.1. Compilation of historical data

Our methodology is based on the recompilation of historic data, study and analysis of an aerial photograph, which dates back to 1976 and a satellite image acquired by FASat-Charlie (SAF 2014) in 2012, see figure 1. We carried out a visual inspection of the optical data to identify railway tracks and installations in the past and land use at present.



Figure 1. *Aerial Photograph (left); Satellite Image (right)*

Furthermore, we reviewed historical writings, like articles in newspapers, magazines, publications and so on, to get an idea of the social and economic impact railway generated on the city of Los Ángeles.

Based on the collected information, we generated a series of vector layers of interest by digitization and text-based archives that consist of all the relevant information to design signboards.

2.2. Field Work

By interviews with people living in the neighborhood of the former railway installations, we tried to get a deeper insight in their daily life's and how it has changed since the railway has stopped working.

Furthermore, we realized a visual inspection of the abandoned grounds and those places where tracks and railway installations formerly were found.

The outcome is a listing of places of interest, suitable for the design and implementation of our proposal.

3. Results



Figure 2. Vector layer (1976)

Vector layers that contain spatial information such as location of former railway tracks, park areas, city blocks and so on were generated by

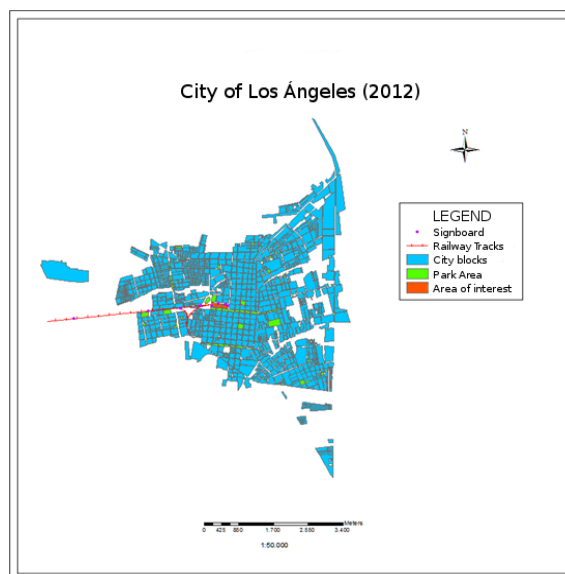


Figure 3. Vector Layer (2012)

digitizing the aerial photograph and satellite image. The results are shown in figure 2 and figure 3 respectively.



	<p>Universidad de Concepción Campus Los Angeles Departamento de Ciencias Geodésicas y Geomática Ingeniería Geomática</p>	
Nombre	Estación de Ferrocarriles Santa María de Los Angeles 1960	
Localización	WGS84, UTM 18S C (733.786,317E,5.849.558,27N)	
Fuente	Patrimonio Gráfico Los Angeles	
Historia	Observación	
<p>En 1950 fue reemplazado el edificio construido de madera por una moderna construcción de hormigón; luego que un voraz incendio, provocado por un cortocircuito, destruyera las dependencias.</p>	<p>La estación tenía una bodega de equipaje al costado de ella, a continuación la sala de movilización, seguida de la sala de guardia y un hall donde había un bife con su respectiva boletería. Además contaba con una oficina para el jefe de estación y en el segundo piso de las dependencias se albergaban la jefatura y maquinistas.</p>	
		

Figure 4. Report based on Testimonials

Afterward, we decided to generate reports based on testimonials given during the interviews. An example is given in figure 4. Most of the people lived during their childhood in the vicinity of the railway. Some of them were employed by the railway company. They all assured that when the railway stopped working, life's changed. Where once children played in the afternoon and people spent their time with friends, little by little these habits were lost. And as time goes by, nobody will remember the glorious days. So, reports were written for a couple of points of interest related to the railway's past.

Based on these specific points we designed a bike-way that would allow families and tourist to inspect and to get an impression of the former location of the railway track and historic buildings.

The principal attraction however, would be the installation of a so called Bibliotren, a sort of museum inside a restored wagon, where visitors can review Chilean railway history in general and of Los Angeles in particular, reading articles published in books, newspapers and magazines. The Bibliotren will be installed at a strategic place, close the former railway station, close to other attractions of the city. We propose to transform this place in a Plaza Viva (a hot spot for leisure time activities), with attractions for children, adults and senior citizens.



Figure 5. Example of a Bibliotren seen in Chile

Finally, and to make our idea virtually come alive, we decided to generate kmz files of the vector layers that can be visualized in Google Earth and to link them with the text-based archives, see figure 6.

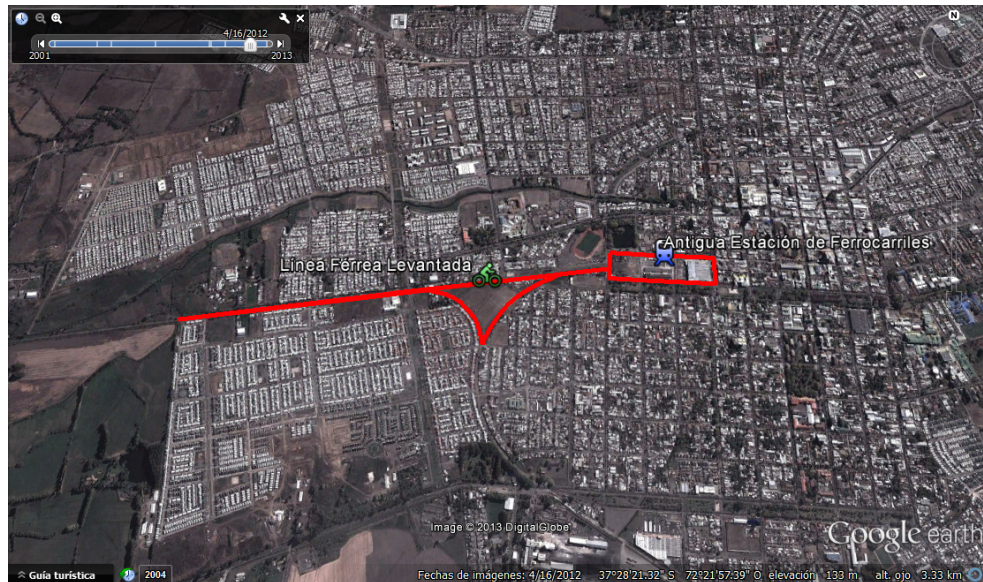


Figure 6. *Compiled data visualized in Google Earth*

4. Conclusions and Outlook

To conclude, our initiative would transform abandoned grounds, where the old railway station was located and where tracks were installed, and give them a proper usage, diminishing crime rate and increase inhabitants quality of life. The city of Los Ángeles will become more interesting for tourists and visitors and at the same time the history of railway will not be forgotten.

At these specific locations, we propose the installation of signboards, which inform visitors and inhabitants of the city of Los Ángeles about the historical background and the socio-economic and cultural impact railway once had.

Railway once was synonymous with life, joy and work. Unfortunately, suddenly lost its magic and charm; people and transport decreased. Almost twenty years of his decline, only some silent witnesses of those times are still visible. The local authorities, left abandoned structure,

to become a unsafe area and propelling the crime and drugs, what finally resulted in the demolition of the former Los Ángeles railway station. There is no doubt about that the municipality and regional representatives must recover that land and, according to the needs of the local society, transform it into pleasant public space where the inhabitants of the city of Los Ángeles can reminisce about railway.

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