Transportation and Sustainable Development in a Mid-Size French City, Dijon

Yves Boquet1*
1 Professor of Geography, Université de Bourgogne, Dijon, France
* Corresponding Author, Email: yves.boquet@u-bourgogne.fr
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Abstract: Capital city of the region of Burgundy, Dijon has embarked into a strategy of eco-development, putting sustainability in the center the public discourse of urban planning. As a mid-size city in France, Dijon appears as a good example of the current trends in city greening around Western Europe. The label of « green city » has become essential in the promotion of urban areas for tourism and job creations, as is shown by the city rankings published in mainstream magazines.

City planning, as in other cities of the same size (about 250,000 residents), is run by the Communauté d’agglomération Dijonnaise, « Grand Dijon », with competencies in transportation, housing and land use planning. According to French laws, a greater emphasis is now given to « solidarity » in the governance of urban areas (= social housing in all municipalities, and also to sustainability and « green » urban policies.

Dijon, after about 20 other French cities, is rediscovering the virtues of streetcars (tramways), considered as a cleaner way to carry population than automobiles or fossil fuel-powered city buses. The implementation of a 2-line streetcar scheme means a reorganization of urban centralities in the Dijon area.

The main downtown commercial street, where only buses are allowed now, will be fully pedestrianized at the start of tramway service. Only an electric shuttle will be able to run through the inner heart of the city. The train station will be a major hub for multimodal transfer. Spaces devoted to automobiles around the train terminal have been reduced, but areas reserved for public transportation (buses and the future tramway), pedestrians and bicycles have increased. The tramway route has been designed to link all major activity centers of the city (shopping centers, train station, university, administrative center, soccer stadium, entertainment venues …), in order to maximize ridership and minimize the need to use individual vehicles.

The city is also encouraging the use of bicycles, with bike-rental programs, in the downtown area and around the university campus. European countries and cities are promoting its use as an environmentally-friendly way to move around cities. Bicycle is part of the daily-life culture of nations such as the Netherlands or Denmark. It is also making a noticeable comeback in French cities. After a few pioneering cities in the 1990’s, many cities have embarked into self-service public bike rental programs, following the 2005 example of Vélo’ in Lyon and the powerful impact of the deployment of Vélib in Paris (2007). In most cases, the cities have contracted with a major announcer, JC Decaux for the “Cyclocity” or Clear Channel for the “SmartBike”. This early model is evolving, with public transport conglomerates (Transdev, Keolis, Veolia) now getting in the bicycle providing game. The city of Dijon has gone further to enhance the appeal of bicycles with the implementation of a metro-area wide network of bicycle lanes. Plans are underway on campus to establish
new patterns of circulation within the university domain, encourage green mobilities and reduce the use of cars.

1. INTRODUCTION

Sustainable development has become a buzzword for many sets of policies at various spatial levels.

The 1987 Brundtland report and the 1992 Rio de Janeiro’s Earth Summit have popularized the notion of sustainable development, with governments, international organizations, non-governmental organizations, decision-makers, developers, academics and the general public. The now well-known idea of a development that meets the needs of the present without compromising the ability of future generations to meet their own needs is trying to reconcile economic growth and environmental protection.

At the local scale, many cities in the world have embraced the principles of the Kyoto conference on the reduction of greenhouse gases, even as their national governments were much more reluctant to commit themselves, as was exemplified by the United States’ situation (Boquet, Y. (2005)), and « sustainable urbanization » is now a major topic of interest for academics (Actes du séminaire national d’Amiens (2007); Outrequin, P. and Charlot-Valdieu, C. (2006); Traisnel, J.-P. and Merlin, P. (1996)).

The term sustainable development goes beyond the boundaries of science and business development and trade to include human development, values, and differences in cultures. In fact, many organizations are referring to sustainable human development as opposed to sustainable development in order to emphasize issues such as the importance of gender equality, participation in decision-making processes, and access to education and health.

Cities have become the focal points of sustainability policies, since they are the largest consumers of goods and services, while draining resources out of external regions that they depend on. The ecological imprint of cities therefore extends beyond their geographic locations. During the preparatory meetings for the Urban 21 Conference in Berlin (July 2000), the following definition was developed to define sustainable urban development: Improving the quality of life in a city, including ecological, cultural, political, institutional, social and economic components without leaving a burden on the future generations. A burden which is the result of a reduced natural capital and an excessive local debt. Our aim is that the flow principle, that is based on an equilibrium of material and energy and also financial input/output, and plays a crucial role in all future decisions upon the development of urban areas.

Sustainable community/urban development is now widely recognized as the ability to make development choices which respect the delicate relationship between the three “E’s”: economy, ecology, and equity.

Transportation issues are often at the heart of eco-development policies in cities (Gudmundsson, H. and Höjer, M. (1996); Litman, T. and Burwell, D. (2006); Newman, P. and Kenworthy, J. (1999)).

France has tried to implement a series of measures aiming at urban sustainable development. It has come up with a set of national policies, prepared by the adoption of laws regarding local governance for urban planning and transportation development, as well as a national debate, known as the Grenelle de l’Environnement, which was organized at the request of France’s new president Nicolas Sarkozy in 2007. At the local
level, cities have taken a good look at the general concepts and the new regulations and requirements, in order to implement them according to the local conditions and develop their own set of policies aimed at a greener development for the coming years. The last part of this paper will consider the case of Dijon, the authors’ hometown, a regional capital of about 250,000 people, in eastern France.

2. THE FRAMEWORK FOR URBAN SUSTAINABILITY IN FRANCE

In recent years, a vast array of laws and measures have modified the institutional governance framework of French urban areas and put in place new goals and methods for a more sustained development, both at local, regional and national level.

2.1 New legislative frameworks on urban governance

The June 1999 LOADDT (Loi d’Orientation sur l’Aménagement Durable des Territoires), known as « loi Voynet » set in place tools for territorial projects, global strategies with environmental concerns and the development of « local development contracts ». The July 1999 « loi Chevènement » act on intercommunality (Loi relative au renforcement et à la simplification de la coopération intercommunale) defined the structures and the modes of organization for regional cooperation between municipalities. Finally, the December 2000 SRU Law (Solidarité et Renouvellement Urbain), or « loi Gayssot », gave some guidelines for an integrated approach on urban development, housing and transportation.

These laws modify the urbanism and land use tools in existence before, such as the SDAUs (Schémas Directeurs d’Aménagement et d’Urbanisme) and POS (Plans d’Occupation des Sols), replacing them with updated versions known as SCOTs and PLUs. Three components stand out in the new policies and regulations:

- the greater role given to « urban areas », redefined by the 1999 Loi Chevènement, with a council made up of officials representing all member municipalities. There is a strong push for integrated development of the entire metropolitan areas and to limit duplicate and separate developments in the same urban area;

- the strong social bent of the SRU law, requiring, for instance, that more social housing be built in affluent municipalities, at least 20% of the housing stock, to prevent a further widening of the gap between rich and poor areas. Non-compliant municipalities could be fined;

- the environmental efforts which are the background of many measures. They include, among others, policies of green sustainable transportation aimed at reducing congestion and pollution.

French metropolitan areas are to implement plans for urban mobilities, known as PDUs (Plans de Déplacements Urbains). The underlying concept is that urban transportation planning must be in a position to accommodate, and even anticipate, the city’s continual pace of expansion and transformation, but also to adapt to the changes in behaviours and lifestyles. PDUs have appeared in 1982 with the adoption of a national law covering many facets of French transportation, the so-called LOTI (Loi d’Orientation sur les Transports Intérieurs) (law on domestic transportation). They
became mandatory in 1996 after the passage of a law on air (quality) and rational use of energy, nicknamed LAURE (Loi sur l’Air et l’Utilisation Rationnelle de l’Énergie) (law on air and rational energy use). The 2000 SRU law made them a part of general urban policy planning.

These plans determine, within the spatial framework of a « perimeter of urban transportation » (PTU), the overall organization of people transport, freight traffic, circulation and parking. All transportation modes are included, and the focus is on the development of alternate modes to reduce the dependency towards the automobile: public transport, 2-wheelers, walking… PDUs are mandatory for urban and metropolitan areas of more than 100,000 inhabitants, their validity is 5 years, and they can be modified if the spatial perimeter is changed to reflect the inclusion of new municipalities in the metropolitan area.

2.2 Sustainable transportation in French cities

PDUs are part of a comprehensive urban policy. The SRU law insists on « territorial coherence », through the adoption of schemes known as SCOTs, Schémas de Cohérence Territoriale, which have replaced the older SDAU’s (Schémas Directeurs d’Aménagement et d’Urbanisme). The new PLUs (Plans Locaux d’Urbanisme) establish new land-use regulations, replacing the older POS.

A basic tenet is that transportation policy cannot be considered in isolation from other issues, such as social and spatial justice (insuring adequate public transport coverage in richer and poorer neighbourhoods alike), « green environmental policies », as well as programs for new housing developments. Urbanism documents must take into account the expected consequences of new housing on road traffic and give priority to the development of areas already well-served by public transportation. This is the French version of Transit-Oriented Development. The ambition of PDU’s is to insure a sustained balance between the mobility needs of inhabitants and the protection of their health and environment. Measures to implement include:

- improving safety in all modes of moving;
- reducing the share of automobile travel;
- reorganizing parking on streets and in parking lots;
- rationalizing the transportation and delivery of merchandise, in order to minimize the negative effects of truck parking while insuring a smooth activity for shops and businesses;
- developing public transportation, with increased use of buses, and development of subway lines in larger cities or a return of streetcars in mid-size cities;
- implementing integrated ticketing schemes to facilitate the daily life of transit users;
- encouraging businesses and public administrations to develop Plans de Déplacements d’Entreprise (plans for corporate travel: car-sharing, limitation of parking space, incentives for public transport use);
- fostering the use of non-motorized non-polluting modes of transportation: walking (all-pedestrian zones and streets) and bicycling.

Streetcars, once a main element of urban mobility (Allemand, S., Ascher, F., et al. (2005)) and an essential factor in the growth of pre-automobile suburbia, had all but disappeared in the 1950’s in France. Twenty years ago,
only 3 cities in France (St Etienne, Marseilles and Lille) still had trams, and each retained only one line. But many French cities have now found that they can increase their attractiveness and improve their transportation sustainability by building a modern tramway system. They were first reintroduced in Nantes, Grenoble, Strasbourg, followed by Paris, Rouen, Montpellier, Lyon, Clermont Ferrand, Orléans, Nice, Bordeaux, Nancy… Existing tram networks are being extended and new ones are being planned (Dijon, Brest).

French cities have also embarked on the promotion of bicycling. After a few pioneering cities in the 1990’s, many cities have embarked into self-service public bike rental programs, following the example of Vélov’ in Lyon, France’s second largest city, in 2005, and the powerful impact of the deployment of Vélib in Paris (July 2007). As of April 2010, such schemes have been implemented in 26 cities in France. In most cases, the cities have contracted with a major advertising company, JC Decaux for the “Cyclocity” or ClearChannel for the “SmartBike”: in exchange for being awarded the outside advertising and bus shelters markets, advertisers will provide and maintain the bicycles and the bicycle docking points (“stations”) which use a proprietary locking system to ensure that each bike is securely stored. The service is accessible via online subscription. Many cities have accompanied this effort with the development of bicycle paths networks. Sometimes the creation of tramway lines is a good opportunity to redesign the whole street use in order to better accommodate bicycles.

The third element in sustainable transport policies is the importance given to train travel. As France is continuing to develop its national high-speed rail network, regional governments have been given control of the regional trains. The French rail company, SNCF, is working closely with cities to redesign its train station plazas in order to allow intermodality with city public transport a bicycles, at the expense of car parking space.

2.3 The “Grenelle de l’Environnement”

When he came to power in May 2007, president Nicolas Sarkozy created a powerful position in government (considered as n°3 after the Prime Minister and the Minister of Foreign Affairs), which has taken four names in four years and encompasses many domains related to environmental affairs: Ministère de l’Écologie, du Développement et de l’Aménagement durables (MEDAD), then Ministère de l’Écologie, de l’Énergie, du Développement durable et de l’Aménagement du territoire (MEEDDAT), Ministère de l’Écologie, de l’Énergie, du Développement durable et de la Mer (MEEDDM) and now Ministère de l’Écologie, du Développement durable, des Transports et du Logement (MEDDTL). This Ministry, currently headed by Mrs N. Kosciusko-Morizet, is in charge of State Environmental Policy (Preservation of Biodiversity, Climate Kyoto Protocol Application, Environmental Control of industries…), Transportation, Infrastructures, Sea, Territorial Development and Housing Policies.

Barely two months into his presidency, in July 2007, President Sarkozy also called for a major conference and public debate to define goals and policies pertaining to sustainable development in France. The “Grenelle de l’Environnement”, brought together many actors of public life to draw up a plan of action of concrete measures to tackle environmental issues. Working groups included representatives from the central government, local governments, employer organizations, trade unions, academics and non-governmental organizations. They gathered to debate around the themes of
climate change, energy, biodiversity, natural resources, agriculture, health, ecological democracy, development patterns, environmental employment and competitiveness. Their initial recommendations were presented in late September 2007 and led the government to propose to the parliament 20 environmental policy measures to be adopted as quickly as possible. The main commitments were on low energy consumption standards in housing, the development of alternate energy resources (solar, wind), more control on agricultural intrants and a major program of financing for high-speed rail and local green transportation (trams and bicycle lanes).

Some of the promises had to give way as the world economic crisis developed shortly afterwards, but the message, albeit less clear in 2010, was to continue local the implementation of sustainable practices, both in the countryside and in urban areas.

3. DIJON’S PLANNING: TOWARDS AN ECO-DEVELOPMENT

Dijon, like many cities, was given a few years to propose new documents guiding the growth of its urban area for years to come, according to the new guidelines of the laws briefly presented above. The general context of « green » awareness, which can also appear as a powerful political tool for elected officials, and the additional push given by the Grenelle de l’Environnement, have led Dijon and its urban area to prepare a new SCOT and a new PLU, implemented in 2010.

These new urban planning documents will shape the city growth at least until 2020, and are the occasion to integrate sustainable development objectives in the process of planning. PLUs differ from the previous land-use plans (POS, Plans d’Occupation des Sols), because they must integrate a PADD (Projet d’Aménagement et de Développement Durable, project for planning and sustainable development) to the mere zoning regulations.

3.1 Grand Dijon: a regional governance of planning and transportation

The future of the city is not to be decided by itself alone, but also by taking account the perspectives of suburban areas, within the limits of two groupings, « Grand Dijon » (Greater Dijon, formerly known as COMADI, Communauté d’Agglomération de Dijon) and the wider perimeter of the SCOT, as well as regional partnerships in eastern France.

« Grand Dijon », created in 2000 in the aftermath of the 1999 Chevènement law, is made up of 22 municipalities, totalling 251,000 people. It was the 4th such Communauté d’Agglomération in France to sign with the national government a Contrat d’Agglomération (urban area contract), which can be considered as a « road map » for metropolitan development, approved by the central government. It is therefore eligible for national subsidies helping it to implement projects deemed valable. Three priorities have been put forward:
- to promote the attractivity of the urban area and its opening to the outside (investors);
- to encourage sustainable and shared development;
- to develop a friendly, innovative life environment, respectful of identities.

Behind these quite vague and politically correct phrases, a number of projects have been started or achieved: a “Zénith” concert venue, a revamped bus network, a track-and-field stadium, an Olympic-sized swimming pool, a system of selective recycling, several measures to help students, and now the development of a new tram system.

The SCOT, a document guiding the future of a wide area round the city, will be the first such document for the capital of the Burgundy region. An official perimeter including 116 municipalities was defined in 2003. Within this SCOT perimeter, general trends of development are to be implemented. A PADD (see above) is about to be released, the first one ever in France. Its major recommendations are to avoid an excessive concentration of activities on Dijon alone, to keep a balance between city and country, to organize in an efficient way transportation in rural areas, to preserve the quality of urban water through a stricter control of farm inputs, and to protect fragile and valuable landscapes of forests, wetlands and vineyards from excessive urban sprawl and leapfrogging.

The third scale of development of the Dijon area is inter-regional, and even international, through the Réseau Métropolitain Rhin-Rhône (« Rhine-Rhone metropolitan network »), where Dijon is teaming up with cities further to the East (Besançon, Montébéliard, Belfort, Mulhouse) and the South (Chalon-sur-Saône, Le Creusot-Monceau), to foster common economic development and avoid excessive competition. It is sponsored by the three regions of Bourgogne, Franche-Comté and Alsace, as well by the Bâle-Mulhouse-Freiburg multinational agglomération (including German and Swiss cities). Two realizations are currently underway: a new high-speed rail line, and a growing cooperation between regional universities (possibly leading to a merger in a few years) and hospitals. Transportation is the key to this intra-metropolitan cooperation.

### 3.2 Dijon’s commitment to environment: Eco-PLU

With the objective to preserve its rich cultural heritage, protect its surroundings and improve the quality of life of its citizens, « Grand Dijon », in collaboration with key actors in the region (citizens, associations, companies, institutions and members of the local parliament, Conseil Régional de Bourgogne), put forth an environmental Charter in 2004. This Charter, aiming to implement locally the main resolutions from the environmental world summits of Rio de Janeiro, Kyoto and Johannesburg, encompasses four major themes: transportation, urbanism, water purification, recycling/waste management.

Since 2004, le Grand Dijon has been leading a meticulous water program called "Eauvitale" that includes: constructing two new purification centers that considerably reduce pollution, increasing water usage consciousness and pushing for tap water consumption. Dijon participates in the « pôle de compétitivité » cluster « VITAGORA - Goût Nutrition Santé » (taste, nutrition, health), with the objective to improve the taste of water to increase tap water consumption.

Dijon aims to optimize waste management through several actions: generalizing selective waste collecting, creating a domestic waste sorting center designed to sort materials (wrappings and papers) and sending this waste to specialized recycling centers, opening a special unit for potentially infectious waste, renovating factory incinerators according to European
regulatory norms, installing a turbo alternator which converts energy produced with combustible waste into alternative energy.

The city has set an objective for carbon balance by 2010 and is following a regional energy climate plan called PCET (plan climat énergie territorial), designed to reduce greenhouse gas emissions. It has also applied for the European City'ergie label 2010.

The PLU will determine precisely land uses for Greater Dijon, by prescribing the types of land use allowed (green space, industrial, commercial, housing ...) and regulations relative to building heights and distance of buildings from streets. It is an opportunity to shape the city according to the wishes of elected officials and to implement the lofty principles mentioned above. Questions during the period of development of the document included: How to contribute to the reduction of the carbon imprint of the urban area? How to provide for needed housing units while saving on space and avoiding further sprawl? How to improve the living environment, while preserving historical heritage in the central area of the city?

The Socialist mayor of Dijon (and president of Greater Dijon), Françoise Rebsamen, has clearly put sustainable development at the center of his planning policies, in a political context of participative democracy and citizens’ ecology. The city, already in the past a national leader in historical preservation, aims to become the French reference in terms of urban sustainability. Its PLU will be the first Eco-PLU of the country (Boquet, Y. (2010b)). Official documents insist on the necessary inclusion of environmental criteria in all major projects underway. Eco-PLU was prepared with a first “diagnosis” phase by a consulting firm, then its elaboration was done in close cooperation with regional agency for environment and energy control, ADEME Bourgogne (Agence de l’Environnement et de la Maîtrise de l’Energie), using an « environmental approach of urbanism ». Four orientations and three priorities have emerged.

The four main goals are:
- an « eco-development for an evolving city », taking into account the social, demographic and economic challenges of the urban area;
- an « eco-mobility for a mobile city », taking into consideration the challenges of moving around a compact and dense city;
- an « eco-housing for a mosaic city », signalling for the emergence of a new urban model and takes into account the differences between neighbourhoods;
- an « eco-territory for an environmental city », calling for a sound management of sparse natural resources.

The three top priorities for action are:
- to answer the housing needs in the Dijon area, new neighbourhoods responding to environmental criteria must be developed;
- Dijon is working on preserving biodiversity with a policy of promotion of green spaces and plans for green corridors within the metropolitan area;
- for transportation, Dijon, following the lead of other French cities of similar size, has embarked upon the construction of two tramway lines, scheduled for opening in 2013. Their completion will be the opportunity to reorganize the bus system and give back to pedestrians and cyclists more of the downtown area.

A Plan d’Orientation Stratégiques d’Aménagement Durable, Economique et Responsable (POSADER) has been adopted by the SEMAAD, the semi-public corporation in charge of coordinating public works in the urban area. It will have to respect urban principles (compact
city, short distances, mixed land-use), social principles (ethnic, economic and generational mixity), as well as environmental principles (low-energy buildings, reduced carbon imprint, city biodiversity) and political principles (participative government, continued interaction with residents, associations, shop-owners).

3.3 Transportation in Dijon

The most visible element of the environmental policy is the reorganization of the transportation policy in the city. Dijon is investing in alternative public transportation modes and several projects are underway including: construction of a tramway with two lines planned for 2013, usage of natural gas in buses, free electric shuttles in the city centre, free bike system, development of bike lanes, increasing car-free areas in the city center, investing in Dijon becoming a central connection city for the TGV network by constructing three branches of the future LGV Rhin-Rhône high-speed railway line.

Local public transportation operator Divia, a subsidiary of the Keolis conglomerate, has redesigned its bus network, widely recognized as one of the best in France for a mid-size city, in terms of ticket price, territorial coverage and service frequency. Efforts are underway to reduce substantially the volume of bus traffic in the very center of the city, to allow better connections between bus lines on the outside of the historical center, and to create dedicated busways to improve the punctuality and speed of buses. This strategy of TCSP (*Transports en Commun en Site Propre*), taking cues from Bus Rapid Transit experiences in other countries, is a first step towards the return of streetcars after a 50 year gap.

During the spring of 2010, preliminary work has indeed begun in preparation for the introduction of tramways in late 2012.

Two tramway lines have been planned, one going from North to South linking major commercial areas at both ends, the other one, West to East, from the city’s train station to the convention center and university areas and ending at the third major suburban shopping district. Both lines will share track on the fringe of the historical center, and Place de la République, a major crossroads of the city, will become the new hub of transportation.

The result will be the complete removal of buses from the main commercial street of the downtown area (rue de la Liberté), which will be pedestrianized, allowing for a better city experience for Dijon people and tourists alike. Place Darcy, currently a complicated node of bus lines crisscrossed by several lanes of car traffic, will be largely devoid of motorized circulation after the trams will run through it, and public eyesores linked to car traffic will be removed, allowing for a wider open space open to pedestrians and cyclists. In front of the historic city hall, Place de la Liberté will be 100% pedestrian. On streets not fully pedestrianized, but where trams will run, pedestrians’ safety will be greatly enhanced, because they will not have to battle car traffic when they cross the street.

Efforts to reduce transport-generated pollution have been already engaged with the introduction of natural gas-powered buses. The introduction of non-greenhouse gases-emitting tramways will be a further step to a green transport policy, while at the same time it will enhance Dijon’s image as a green city. Rainwater stored in an underground reservoir will be used to irrigate the grassy areas that will be lining the route of the tramway.
So is the bicycling policy, based on two converging efforts: the mapping and implementation of a network of bike lanes, and the adoption of a bicycle-rental scheme, nicknamed Vélo’Dijon, inspired by the successes of Lyon’s Vélo’v and Paris’ Vélib (Boquet, Y. (2010a, 2010b)). Local lobbies, such as EVAD, continue to push hard for the implementation of bicycle-friendly policies (Joannis, C. (2008)). As much as will be allowed locally by streets’ width, bicycle lanes will parallel tramway tracks across the city.

Dijon’s ecology friendly transportation initiatives have received recognition on a national level and, at end of 2008, le Grand Dijon was granted the Ticket vert (Green ticket) by the FNAUT (Fédération Nationale d’Associations d’Usagers des Transports), the French consumer association specialized in public transportation.

3.4 Eco-quartiers, a new approach to neighborhood development

The city is also promoting its eco-districts such as those of Junot, Hyacinthe Vincent and the “Grand Sud”. The expression « éco-quartier » (ecological neighborhood) was first introduced in Scandinavia (Stockholm, Malmö, Copenhagen) and Germany (Hanover and Freiburg-in-Brisgau) (Charlot-Valdieu, C. (2009); Hopwood, D. (2005); Lefèvre, P. and Sabard, M. (2009); Souami, T. (2009)). Sustainable housing practices are also entering the planners’ and decision-makers’ vocabulary, gaining popularity around the world, even if they are still very loosely defined (Bertrand, V. (2010); Giroir, G. (2007); Priemus, H. (2005)).

The city of Dijon is strongly supportive of ecological urban construction solutions that comply with sustainable development standards such as the French Haute Qualité Environnementale (High Environmental Quality) standard for green building, and the Bâtiment de basse consommation énergétique (Building of low energy consumption) standard.

Redevelopment activities of former military facilities has often included new housing developments, industrial, training, educational and recreational facilities alongside retail and commercial quarters (Bagacen, S.G. (2006)). Reconstruction sites must be as « green » as possible. In Dijon, it has been promoted by a political commitment to “sustainable” urban regeneration. On the space previously used by disaffected military barracks, the new Junot neighbourhood (Rouzaut, E. (2007)) has been built largely with recycled materials from the abandoned buildings, in order to minimize the traffic of noisy and polluting trucks in and out of the construction area. The new buildings obey stringent regulations relative to energy consumption. At the same time, it is aimed at encourage social and generational mixity, to avoid ghettoizing of ethnic minorities and the elderly. This 600 housing units projects was built according to principles of high-environmental quality, a green space was created in the center of the new complex, and parking is on the outside, leaving the heart of the area for pedestrians and cyclists. This eco-neighbourhood will be followed by another one in coming years, reflecting the wish for an innovative and evolving city.

An innovative partnership, “Univer-Cités” has been established between the local University and the Grand Dijon, in order to improve the links between the city and one of its main engines of growth and life. The campus is to be expanded (with financial support from the national Grand campus program of universities renovation) and a green area maintained in its center. The tramway route, as it already does in Orléans or Grenoble, will be crossing the campus to insure maximal accessibility from the center of town.
The Board of Regents of the university has put forward its commitment to the development of green policies on-campus, from recycling to cycling (Université de Bourgogne (2010)). The geography department has been charged by the University’s president to develop a campus-wide scheme of mobility to reduce the need for car use within the premises of the university domain, and also to think about measures to limit the number of automobiles entering the campus grounds. A thorough reorganization of traffic within campus will be implemented, and the number of bike racks greatly increased. The university, in its own way, is trying to become also an eco-neighbourhood and a model for other universities in France.

4. CONCLUSION

The city of Dijon, at his scale of medium-size regional capital in Europe, has been at the forefront of French sustainable urbanization practices in recent years. Efforts are starting to bear fruits, in terms of national recognition, with many awards and high rankings in “quality-of-life” indexes published in major news magazines. This does not come without difficulties, such as the current obstacles to a smooth flow of circulation, caused by ever-expanding street work to prepare for the arrival of tramways. But there are clearly lessons to garner from Dijon’s experience and efforts, even if it may be more difficult to implement in larger cities such as Paris or Hong Kong. Is the experience led by a small (at the world scale) local government to be reproduced in other political context? Dijon benefits also from being a city with relatively little heavy industry, hence no major industrial effluents pollution. As a city dominated by tertiary activities, can it be a model for large metropolitan areas with high population density? Is there a scale limit to the implementation of such virtuous environmental policies?

These are some of the questions arising from the Dijon example. It is interesting to note that most innovative policies have occurred in mid-size cities rather than large ones: Dijon, and not Paris, Portland and not Los Angeles, Freiburg and not Berlin. Another avenue of reflexion would be to ask if this environmental policy is a luxury that emerging and developing nations would have a difficult time emulating, because the priority would be jobs more than air quality.

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WEB SITES OF INTEREST

Ville de Dijon: http://www.grand-dijon.fr/
Grand Dijon: http://www.grand-dijon.fr/
Ensemble à Vélo dans l’Agglomération Dijonnaise: http://www.evad-dijon.fr/
Université de Bourgogne: http://www.u-bourgogne.fr